# Corporate Social Responsibility, Corporate Tax Avoidance and Earnings Quality- A European Examination

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# *Abstract*

This study aims to provide an answer how corporate social responsibility (CSR) affects tax avoidance in Europe. Because existing theory and prior research exhibited inconclusive results and was predominantly conducted using data from American firms, this study examines whether the relationship between CSR and tax avoidance is also maintained for European firms. Using a sample comprising of 5,219 European firm-year observations Europe from 2002 to 2017, multiple analyses are executed. The relationship is tested for the whole sample and by grouping firms domiciled in the UK and firms not domiciled in the UK. Additionally, earnings quality and periodic differences are used to examine the relationship. The results suggest that firms domiciled in the UK do reflect prior results better and differ from the CSR cultures in other European countries. The different CSR components vary in tax avoidance prevention or encouraging. Conclusively, environmental performance seems to be negatively related to tax avoidance for UK firms and positively for non-UK firms, lending credence to the idea that UK firms do not consider environmental performance and tax avoidance complements.

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*Chapter 1*
*Introduction*

Nowadays, in the continuing globalizing world, the influence of corporations is increasing and the revenues of big corporations are exceeding the gross domestic products of countries (Wilde & Wilson, 2018). While this globalization is providing all kinds of business perspectives, it gives rise to profit shifting to countries with a more advantageous tax regime, such as the Netherlands, Ireland or Switzerland (Dharmapala & Hines, 2009; Gravelle, 2010; Taylor, Richardson, & Taplin, 2014).[1] The increased opportunities to reduce tax payments in Europe may be beneficial to the individual company which is able to spend more on dividends, salaries of its employees, charity or the environment, but simultaneously harms the revenues of governments. This harmful behaviour is a thorn in the side for the European Commission which has urged proposals for Anti Tax Avoidance Directives to harmonize government action. Moreover, avoiding taxes is at odds with the expanding importance of Corporate Social Responsibility (CSR) activities. If a broader perspective to evaluate CSR activities is adopted, CSR activities are regarded as having a significant impact on all of the firm's stakeholders which includes shareholders, employees, NGOs, government and customers (Moser & Martin, 2012). The strong social and religious traditions in many countries in Europe support the principles of social responsibility and have provided an extended legislative framework for many aspects of CSR (Visser & Tolhurst, 2010). Therefore it is of importance to look into the CSR engagement of firms in connection with the tax avoidance of companies domiciled in European states.

In the literature on the relationship between CSR and tax avoidance, the conflict between these two were pointed out. The diverging opinions towards taxation and its role within socially responsible activity can be summarized as follows: from one point of view, tax avoidance is difficult to reconcile with CSR. Christensen & Murphy (2004) consider paying taxes as perhaps the most fundamental way in which private and corporate citizens should engage with broader society. Aggressive tax planning should be deemed a monstrosity, which hurts the society and is essentially anything but sustainable. Opposed to this, others have a different view on taxation: avoiding taxes is good for society as a whole via the firm's after tax profits. Tax avoidance increases the firm's after-tax profits. This enhances for example dividends and allows for job creation thereby increasing other sources of tax revenue, such as the indirect payroll and dividend taxes, to contribute to government revenues. Similarly, an improvement of the profits creates capacity for firms to invest in socially

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[1] For instance it was acknowledged by the state secretary of finance the Dutch have become experts in aggressive tax planning (Ewing, 2018).

responsible projects (Davis, Guenther, Krull, & Williams, 2016).

Presumably, these differences in attitudes towards taxation cause competing outcomes in examing this relationship. The expectation that higher CSR engagement will lower tax avoidance is supported in multiple articles with a focus on Australia (Lanis & Richardson, 2012) and the U.S. (Lanis & Richardson 2015). Lanis & Richardson (2012; 2015) find that socially responsible firms are less tax aggressive. The higher the level of CSR disclosure of a firm, the lower the level of tax avoidance, especially if the company commits to social investment items (Lanis & Richardson, 2012), community relations, and diversity (Lanis & Richardson, 2015). The expectation that lower CSR engagement will enhance tax avoidance is also supported in multiple other articles (e.g. Hoi, Wu, & Zhang, 2013; Huseynov & Klamm, 2012). Hoi et al. (2013) separate between irresponsible and responsible CSR activities and employ irresponsible CSR firms to examine the empirical association with tax avoidance, using different measures to capture aggressive tax avoidance. Huseynov & Klamm (2012) examine the interacting effect of tax management fees, using a sample of only companies that have been rendered auditor-provided tax services, and three measures of CSR – community, diversity and corporate governance- on tax avoidance. Their findings suggest that the interaction between tax fees and diversity/corporate governance strengths decrease tax paid and community concerns raise them. Davis et al. (2016) also examine the relationship between CSR and corporate tax payments, resulting in supporting evidence that using legal means to reduce taxes (tax avoidance) is at least not considered to be socially undesirable. Opposed to the articles of Hoi et al. (2013) and Huseynov & Klamm (2012), Davis et al. (2016) experience that CSR engagement firms are more likely to avoid taxes, suggesting that CSR and taxes act as substitutes rather than complements.

## 1.1 Research objectives
The mixing results in the aforementioned articles suggest that there is need for more examination of the relationship. The research area of tax avoidance has gained increasing prominence within discussions concerning CSR, but remains yet poorly understood (Whait, Christ, Ortas, & Burritt, 2018). Hence, from a societal and academic perspective it is important to look further into the relationship and find if CSR causes firms to engage or disengage in tax avoidance. Whilst reinvocating the debate on the characteristics of this relationship, this thesis uses a sample of European firms. Prior research focussed predominantly on the United States (Davis et al., 2016; Hoi et al., 2013; Huseynov & Klamm, 2012; Lanis & Richardson, 2015; Watson, 2015) and Australia (Lanis & Richardson, 2012). The companies domiciled in these Anglo-Saxon countries are on average more shareholder oriented and shareholder rights are better protected than in non-Anglo-Saxon countries (Ball, Kothari, & Robin, 2000; La Porta, Lopez-de Silanes, Shleifer, & Vishny, 1998; La Porta, Lopez-de-

Silanes, Shleifer, & Vishny, 2000; Leuz, Nanda, & Wysocki, 2003). Firms lodged in European countries are on average considered to be less shareholder oriented. Hence, it can be questioned whether the relationship as examined in prior research is applicable to the European continent. The usage of multiple firms domiciled in different European countries, contributes to previous knowledge in a not priorly investigated empirical setting with regard to this specific relationship. Consequently, these implications lead up to the following research question:

*Do CSR engagement firms in Europe pay more taxes?*

Engaging in CSR or in tax avoidance are decisions being made by the management of an organization. Both the executive characteristics and the corporate governance of an organization determine what kind of decisions are allowed. These characteristics and corporate governance mechanisms may allow managers to conduct opportunistic behaviour in terms of financial reporting by managing earnings. Managers can manage earnings in a more favourable way to reach targets or achieve bonusses. This earnings management can be used to measure up to what level companies allow managers to shift earnings and exercise override. In prior research the relationship between CSR engagement and earnings management (EM) and the relationship between earnings management and tax avoidance was examined. Research conducted suggests that CSR is negatively related to EM (Kim, Park & Wier, 2012) and EM is positively related to tax avoidance (Frank, Lynch, & Rego, 2009). This implies that firms engaged in CSR which have earnings quality of a high standard, would avoid fewer taxes than firms engaged in CSR subjective to inferior earnings quality. Managers of those firms would rather be ethical in both pursuing social responsbilility and honest reporting according to accounting standards. By taking the quality of earnings into account, this thesis will contribute to prior knowledge using EM as a moderating variable on the aforementioned relationship.

Moreover, as recently international outrage rose when the Panama and Paradise papers were released, the call for adequate tax reporting rose (Whait et al., 2018). It may be that due to these current developments tax avoidance is perceived as less sustainable. Especially the general public has changed its perception over the years. In studies in 1998 and 2003 tax avoiders were perceived as hard-working and intelligent by the general public and by tax businessmen (Kirchler & Hoelzl, 2017; Kirchler, Maciejovsky, & Schneider, 2003). Over the years, especially the general public in Europe and America, seemed to have adopted an increasingly sceptical view (DeZoort, Pollard, & Schnee, 2018; Torgler, 2007) in which tax avoidance was perceived to be unethical. Reputational concerns are important for firms in evaluating whether they adopt a tax planning strategy (Graham, Hanlon, Shevlin, & Shroff, 2014) and public scrutiny changes the cost and benefits of tax avoidance

(Dyreng, Hoopes, & Wilde, 2016). If the general public resents tax avoidance strategies, this will probably influence executives' motivation for advancing these practices. Therefore this thesis will contribute to previous findings by separating the implications of the relationship between different time frames, viz. 2002-2012 and 2013-2017. The distinction between the time frames is based on the availability of data for the two periods to create an equally distributed sample.

## 1.2 Research Methodology

The examination of the research question is conducted by a quantitive analysis of European firms on their CSR performance and their tax avoidance. For generalization purposes, multiple countries were added to the sample to deliver empirical evidence. Samples involving sole countries such as in prior research (Lanis & Richardson, 2012; 2015; Hoi et al., 2013; Davis et al., 2016), was, according to the authors, bound to country-specific limitations. The panel data comprises of 5,129 firm-years with European companies from different countries for the years 2002-2017. The package of ASSET4, residing in the Thomson Reuters Datastream, is used to calculate CSR performance and Thomson Reuters Datastream itself is used to circumvent the proxies for tax avoidance and obtain the other variables.

The examination of the research question is executed in two parts: first of all, a univariate analysis is made to display the descriptive statistics of the variables used in this thesis. Then, a multivariate analysis is done to pursue the research objectives using the gathered panel data. Firstly, the determinants of CSR activities and tax avoidance are examined for the whole data set, as baseline regressions. Furthermore, this study answer to the call of Hanlon & Heitzman (2010) and Lanis & Richardson (2015) who request that different CSR performance indicators are separately analysed to contribute to a more detailed understanding. Simultaneously, a separation between firms domiciled in the United Kingdom and firms domiciled in the other European countries is made. This is being done to investigate firms with an Anglo-Saxon background (Ball et al., 2000; La Porta et al., 1998; La Porta et al., 2000; Leuz et al., 2003) whose qualifications led up to conflicting results in prior research (Hoi et al., 2013; Davis et al., 2016). Thirdly, EM is used as a moderating variable in the relationship of CSR and tax avoidance. Additionally, different time frames are used to look into the relationship.

## 1.3 Thesis Outline

The remainder of this study is structured as follows: the next chapter provides an overview of relevant literature. It contains an explanation of tax avoidance research as well as an explanation of CSR activities. Moreover, the issues risen from previous research will be elaborated upon and an applicable research framework will be constructed to develop hypotheses. The research

methodology is discussed in the third chapter including the sample selection and the methodology to investigate the hypotheses. The fourth chapter provides the descriptive statistics of the sample used and exhibits the results. The final chapter discusses the results and reports the conclusions drawn from the research. Moreover, it elaborates on the implications, acknowledges the limitations and suggests future research directions.

*Chapter 2*
*Literature Review*

## *2.1 Purpose of the literature review*

The purpose of this theoretical overview is to elaborate on the concepts of tax avoidance and CSR activities. Due to a widespread of literature on these topics, the definitions worked with should be clarified. Tax avoidance is a topic of much discussion (Hanlon & Heitzman, 2010) and also corporate social responsibility is perceived by many in different ways (Wood, 1991). After the concepts have been explained in more detail, prior research on the relationship between CSR activities and tax avoidance is evaluated to construct hypotheses. In order to do so, an elaboration on the differences in shareholder and stakeholder perspectives between European and American firms will be given and the hypothesises will be constructed using shareholder, stakeholder theory and a risk management approach. Additionally, EM is used as a moderating variable to explain the tendency for management to opt for CSR and/or tax avoidance and possible differences in time periods are explained. The papers to review the concepts and its nexus were picked from top ranked journals according to Lowe & Locke (2006) and Harris (2008), to obtain high quality articles.

## *2.2 Tax avoidance*

First of all, the definition of tax avoidance as noted in this thesis should be elaborated; to overcome misconceptions with the term tax evasion, which is also often used. Constructing a legal reality to avoid taxes is venturing into dangerous waters, as the following quote indicates:

'The difference between tax evasion and tax avoidance is the thickness of a prison wall.' - Denis Healey, former British Chancellor of the Exchequer (Eliffe, 2011).

This quote implies that it may be difficult to pinpoint the difference between the terms evasion and avoidance (Elliffe, 2011). Within law there is from a jurisprudential perspective a distinct discrimination between tax evasion and tax avoidance: whereas the concept of tax avoidance refers to behaviour that is lawful, the concept of tax evasion refers to behaviour that infringes tax codes (Hasseldine & Morris, 2013) and is illegal irrespective of the motive or outcome underlying the act (Fisher, 2014). Sikka (2010) used both terms not mutually exclusive, thereby not acknowledging the different legal consequences (Hasseldine & Morris, 2013) and relies for anecdotal evidence predominantly on examples involving fraud, deceit and corruption, which are classifications of tax evasion and not of tax avoidance. Although the difference in qualifications may lead from a law perspective to a quite dichotomous situation, accounting standards are presumably not able to differ

ad hoc between these two types. Therefore, Dyreng, Hanlon, & Maydew (2008, p. 62) use a broad definition to express the notion tax avoidance: "anything that reduces the firm's cash effective tax rate over a long time period". They prefer this term in comparison to other papers which use 'tax sheltering', 'tax evasion', or 'tax aggressiveness' because they do not intend to imply the wrongdoing on the part of the firm. In their research they eminently want to indicate that the firm is able to avoid paying taxes on the income reported to its shareholders. This will reflect both reductions that are undeniably in compliance with the law as those that result from grey-area interpretation. Whether a tax avoidance transaction is legal or illegal is often only considered after the transaction has happened. Consistently, tax avoidance 'by the books' resembles both certain and uncertain tax positions which may be or may not be ruled legal (Hanlon and Heitzman, 2010; Wilde & Wilson, 2018; Wilson, 2009). Hence, it can be hard to determine whether a firm engages in tax evasion or avoidance while examining a lot of data. This broad definition given by Dyreng et al. (2008; 2010) is adopted in this thesis to capture tax avoidance which is displayed in the financial statements of the companies examined.

### 2.2.1 Perceptions, motives and possibilities of tax avoidance

The prior being said, some strict legal ways to reduce tax payments are also not embraced by society, politicians or non-governmental groups. The sceptical perception of society towards tax avoidance has increased (DeZoort et al., 2018; Dyreng et al., 2016; Torgler, 2007) since it is reckoned that tax avoidance comes with certain costs for the government's budget. The revenue reduction, caused by tax avoidance could lead to deleterious circumstances for society as a whole. If the governement budget is shrunk due to tax avoidance, government expenditures have to be cut back, possibly deteriorating government programs (Hoi et al., 2013). If the government budget is to remain constant, the gap has to be filled by the well-willing taxpayers. This implies that the tax rates for the benevolent are raised or that specific deductions to harmonize the tax rates are scraped via altering acts.

Opposed to the wishes of the general public, the possibilities for corporations to conduct a aggressive tax planning, to shelter, to evade or to be noncompliant are not quite limited (Hanlon & Heitzman, 2010). Especially multinational corporations are able to avoid income taxes that domestic-only companies cannot (Rego, 2003). The reason that firms try to avoid taxes is to increase their earnings after tax. Higher profits could be beneficial for firms and its stakeholders in multiple ways: Firstly, shareholders may profit from the enhanced profits via dividends. Secondly, managers can profit indiviually by achieving the performance bonusses thresholds. Thirdly, it can be used to comply with loan covenants or to meet the criteria for granting/extending loan facilities. Forthly, it may be

used to support stock prices or to reach abnormal returns. Lastly, it may be used in the sight of a merger, an acquisition, or a sale to provide higher ratios, which support the upward going price for sale or convince the other party the firm is suitable for the merge. [2]

According to Crocker & Slemrod (2005), agency theory explains the reasons for management to engage or disengage in tax avoidance. It advocates that as a result of the separation of ownership and control, managers should be monitored in pursuing tax avoidance if this is a worthwhile activity. Different aspects of the relationship between the principal and the agent have been investigated in prior research. Primarily, the role of the executives is taken into account. Individual executives play a significant role in the determination for the level of tax avoidance in a firm (Dyreng et al., 2010). Similarly, Frank et al. (2009) found that there is a strong positive relation between tax aggressiveness and financial reporting aggressiveness. Drawing on this, Rego & Wilson (2012) find that managers are fond to enage in tax avoidance because they expect greater personal benefits. This particular pursuit may harm the organization's reputation or may decrease future earnings. In order to prevent extraordinary tax avoidance by managers, corporate governance is important. This involves mechanisms, relations and processes by which a corporation is controlled and directed, to balance the interest of the shareholders and stakeholders of this corporation (Desai, Dyck & Zingales, 2007). Desai et al. (2007) posit that the intentions of managers to achieve low tax rates can be limited by effective corporate governance, such as incentive compensation. This tends to reduce the levels of tax sheltering (Desai & Dharmapala, 2006). However, governance attributes are more apt to more extreme levels of tax avoidance. Financially sophisticated and more independent boards mitigate agency problems, but especially with high-risk taking executives. The optimal level of tax avoidance is thus more likely to occur at an interior point, from a trade-off between the marginal costs and benefits of management entrepreneurism (Armstrong, Blouin, Jagolinzer, & Larcker, 2015).

## 2.3 Corporate social responsibility

Over the years, the term CSR has been subject to a lot of alterations. Carroll (1979) describes the orgins of CSR and narrates that its concepts have been evolving for decades. The lack of consensus of what social responsibility was and ought to be, was further polarized by the view of the neo-classical economist Milton Friedman. Friedman (1970) argued that the sole social responsibility of firms was to increase profits. All kinds of social or environmental issues were the concern of governments and involvement of corporations was undesirable.

This line of thought was not adopted entirely in the later work of Carroll (1991), who created

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[2] It must be acknowledged that only a limited overview of beneficial consequences is provided and that tax avoidance also comes with certain costs.

the pyramid of corporate social responsibility. In Figure 1, the importance of the different concepts is shown within this pyramid which is adopted from the paper of Carroll (1991). The foundation of this pyramid is based on the economic responsibilities of the firm. In order to provide value to society, the firm has to be able to generate profits and thus continue to exist and contribute value. The second component addresses the legal responsibilities of the firm to obey the law. With regard to tax, it is important to fulfil its legal obligations and comply with various state, federal, and local regulations. The third component sees to the responsibility to act morally and ethically. This is not limited by the law but asks corporations to go beyond the narrow requirements. The last component is the philanthropic part, which is in essence the objective to be a good corporate citizen. Again this is an extension of the prior levels and it asks the firm to improve the quality of life overall. It should not be limited only to its employees but be applied to the community as a whole. Carroll (1979) used to refer to this component as the discretionary category of business performance. However, in reality it merely had to do with donations to charity, sponsoring of locals and other activities which contribute economic resources to the community. Hence, the name 'philanthropic responsibilities' emerged. Together these components form the pyramid. Business decisions may fall under one of the components, but can also address multiple components.
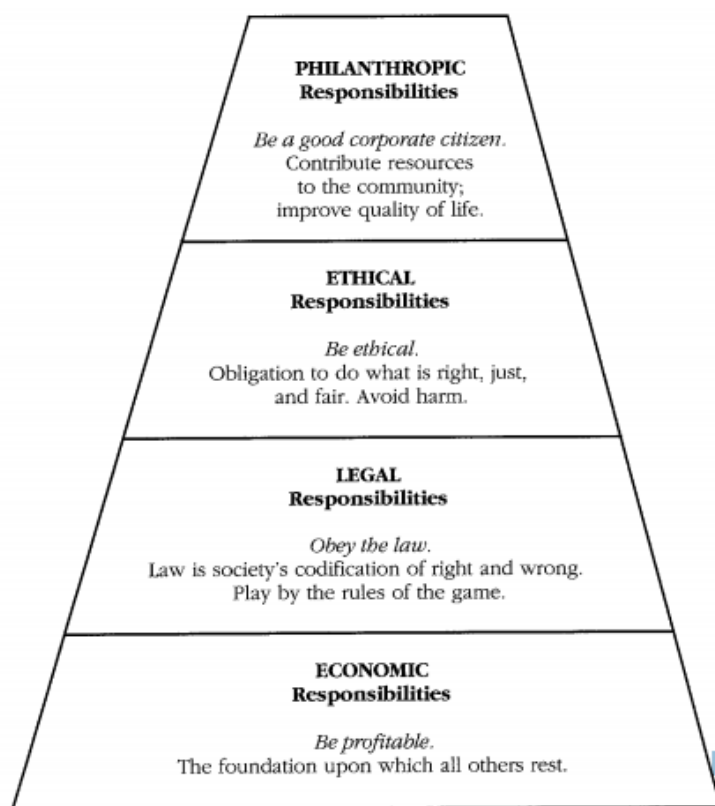


*Figure 1 The Pyramid of Corporate Social Responsibility (Carroll, 1991, p. 42)*

This depicted concept of CSR has a natural link with the stakeholders (Carroll, 1991). Therefore the concept of CSR can also be more broadly defined to voluntary firm actions designed to improve social or environmental conditions (Mackey, Mackey, & Barney, 2007). This definition is also used more often and can be seen as a complementary to Triple Bottom Line (TBL), which looks more into the sustainability of an organization from an economic, social and environmental perspective (Elkington, 1998). The TBL approach integrates the performance related to economy, society and environment, glazing at it as a whole. CSR is a part of the bigger sustainability issues addressed within TBL, and sees particularly on the social and economic sides of a firm. In this thesis the scope is not limited to the reports on solely social responsibility to demarcate the firms' responsibilities. Besides responsibilities in human resource and assessing social performance along dimensions such as corporate governance, community, diversity, employee relations, environment, and product (Kim et al., 2012), environmental scores are also taken into account. Nowadays, corporate responsibility is inseparately linked with the current debate of firms' responsibilities in reducing polution and rejectamenta.

### 2.3.1 Perspectives on CSR

As the introduction of CSR in this thesis signalled, there is not one common view on CSR and its perception of social firm activity. Traditionally there are two perspectives on the role of CSR within a company. Both perspectives have different answers to tackle the main question, which queries why firms would want to engage in CSR?

The first perspective is originated from the essays of Friedman (e.g. 1970). The answer to the probing question should be that firms should and only will engage in social responsible activities if this would enhance shareholder value. A firm has the function to increase profits and if CSR is a mean to reach this desired end, it should be adopted. Research has provided evidence that it can be beneficial from a financial point of view for firms to engage in CSR. In the majority of the research, corporate social performance is positively associated with corporate financial performance and vice versa (Margolis & Walsh, 2003). Also, specific components of the Pyramid are investigated in combination with financial performance. For example, Lev, Petrovits, & Radharkrishnan (2010) examine the association between corporate charitable contributions and future revenue using Granger causality. Their study provides evidence demonstrating that future revenues are enhanced by donating to charity. Especially, if firms are highly sensitive to consumer perception, the future sales will increase. In addition, customer satisfaction will increase, which also gives rise to potential future sales. To benefit from what CSR can offer, it is important to disclose CSR information.

According to Dhaliwal, Li, Tsang, & Yang (2011), CSR reporting can aid managers in lowering the cost of equity capital. Although nowadays institutions such as the Global Reporting Initiative are established to provide a bit of information on the verification of reports, in most countries CSR disclosures are still voluntary, unverified and managers might put a positive spin on the information they disclose (Moser & Martin, 2012). For shareholders, this may be problematic. However, Dhaliwal, Radhakrishnan, Tsang, & Yang (2012), find evidence which suggests stand-alone CSR reports are significantly associated with lower analyst forecast error. Especially in countries with a stronger stakeholder tension, this effect is asserted. Moreover, Kim et al. (2012) find that managers of firms with higher CSR activity act more ethically and less engage in earnings management, thereby enhancing shareholder value. Likewise, CSR can be used as an strategic method to hedge against negative consequences of certain events. This can create a more favourable reputation and reduce negative externalities (Godfrey, Merrill, & Hansen, 2009).

The second perspective regards CSR as a obligation from society on firms. Firms have a social responsibility to fulfil. Primary, firms should try to enhance stakeholder value and wealth disbursement should not be limited to the shareholders, but provide prosperity to society as a whole. From an ethical point, there is also no reasonable argument to engage in unlimited profit maximization. Extra tasks and costs, which rise from CSR activities, will neither make the firm inefficient nor put itself out of business since most likely this will thrive employee satisfaction and offer strategic advantages (Kolstad, 2007). Reserach suggests that firms also make investments which benefit employees, consumers and society. For example, McWilliams & Siegel (2001) develop hypotheses-based an ideal level of CSR that can be determined via cost-benefit analysis. This is matter of supply and demand at firm-level and is not based on maximing shareholder value. Additionally, they argue that in essence the relationship between social responsibility performance and financial performance is neutral. Mackey et al. (2007) put forward that even when investments reduce the present value of the firm's cash flows, it could embellish the market value of the firm. In accordance with these other possible indicators to engage in CSR, the ethical managers in the study by Kim et al. (2012) would not necessarily engage in CSR for shareholder value. It may well be that the CSR activities are undertaken at the expense of the shareholders.

### 2.4 Prior research on the association between CSR engagement and tax avoidance
This section elaborates on prior research conducted with a focus on the relationship between CSR engagement and tax avoidance. It seeks to systematically discuss previous literature and pinpoint its contributions and shortcomings. Shareholder, stakeholder theory and risk management is used to deduct hypotheses as developed in the next section.

Table 1 provides an overview of the prior research conducted with regard to the relationship of CSR engagement and tax avoidance. As can be deducted from this, the results are mixed. This possibly emerges from different theoretical explanations for the underlying relationship. Moreover, in the various studies, different samples and measurements are used to capture the variables. Section 2.4.1.1 will elaborate on the research which exhibited a positive relationship between CSR engagement and tax avoidance and section 2.4.1.2 on research which exhibited a negative one.

| | Paper | Predicted | Result | CSR engagement | Tax Avoidance |
|---|---|---|---|---|---|
| Positive Relationship | | | | | |
| | (Davis, Guenther, Krull, & Williams, 2016) | -/+ | + | High | High |
| Negative Relationship | | | | | |
| | (Hoi, Wu, & Zhang, 2013) | -/+ | - | Low | High |
| | (Huseynov & Klamm, 2012) | -/+ | - | Low | High |
| | (Watson, 2015) | - | - | Low | High |
| | (Lanis & Richardson, 2012) | - | - | High | Low |
| | (Lanis & Richardson, 2015) | - | - | High | Low |

*Table 1 Overview of Research Papers*

## 2.4.1. Positive Relationship

The most recent study in this overview by Davis et al. (2016) uses a sample of U.S. public corporations and retrieves 5,588 firm-year observations between 2002 and 2011 to examine

whether social responsible firms pay fewer taxes. They predict a positive relationship if firms view paying taxes in the same way they view CSR activities. In that case, they believe the two act as complements. Likewise, they predict that if firms view paying taxes as detracting from social welfare and shareholder value, there will be a negative relationship with corporate tax payments and CSR acting as substitutes. The authors find evidence indicating a negative relationship between CSR indices and the proxy for tax avoidance, the effective tax rate (ETR). Therefore, there is a positive relationship between CSR and tax avoidance, consistent with the anecdotal evidence that suggests that firms do not view tax avoidance as part of CSR. Moreover, their evidence suggests that firms ranked with the highest quintile CSR indices have significant lower ETRs compared to lower-ranking firms using these indices. This result is inconsistent with previously discovered results that exhibit lower-ranking CSR firms engaging in tax avoidance (Huseynov & Klamm, 2012; Hoi et al., 2013; Watson, 2015) and higher-ranking firms less engaging in tax avoidance (Lanis & Richardson, 2012; 2015). According to Davis et al. (2016), the inconsistent results with prior research are presumably caused by different sample composition and variable measurement. Opposed to prior research, they exclude the corporate governance category, as proposed by Kim et al. (2012). Moreover, a five-year effective tax rate is used, resulting in fewer exclusions due to negative pre-tax income and this long-run measure averages out variation in effective tax rates due to profitability, accounting differences and one-time events. CSR could therefore be a form of risk management to hedge against the consequences of their involvement in negative events, as hypothesized by Godfrey et al. (2009).


### 2.4.2 Negative Relationship

Hoi et al. (2013) introduce the terms socially responsible and socially irresponsible to separate between the CSR performances of the firms examined. Irresponsible CSR activities include corporate actions that are regarded as damaging to the different CSR components, such as corporate governance, employee relations, communities, diversity et cetera.[3] They posit that CSR is a result of corporate culture and this should influence both the CSR activities and tax avoidance activities. If the culture drives company policies then irresponsible activities and aggressive tax avoidance practices are likely to be positively associated. Opposed to this, they hypothesize that firms with irresponsible activities may use less aggressive tax avoidance practices to hedge against the reputation risks caused by the CSR concerns. They use a sample of 11,006 firm-year observations covering the period of 2003-2009, for which at least one tax avoidance variable is available. In the study, irresponsible activities are of particular interest and they use an enhanced variable of negative CSR activities,

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[3] An overview of the components used in their study can be found in Appendix B of their study (Hoi et al., 2013).

which is composed of corporations with four or more irresponsible CSR activities. The evidence suggests that especially firms with four or more irresponsible activities avoid taxes more. These firms are more likely to undertake tax sheltering activities, have higher discretionary/permanent book-tax differences and have more uncertain tax positions (Hoi et al., 2013).

Huseynov & Klamm (2012) introduce the topic outlining the conflicting theoretical background of CSR and tax avoidance. In prior research, tax avoidance was seen as being contributory to the firm and to shareholder value, which would indicate a negative connection between CSR and tax avoidance. Other research suggests that tax avoidance is quite irresponsible and there is a positive nexus between the two concepts. Huseynov & Klamm (2012) use a sample consisting of S&P500 firms and covering 2337 firm-years from 2000 to 2008. The authors discover that different components of CSR lower the ETR. They separate the strengths and concerns of CSR categories –corporate governance, community and diversity- and opposed to Davis et al. (2016), find that overall the firms with concerns (poor performers) have lower ETR. The study also includes tax management, i.e. auditor-provided tax services and finds this lowers ETR. Also a few interactions between tax fees and CSR categories hold. Strong governance firms use tax fees to decrease tax payment, strong diversity firms use it to decrease tax expense, poor performing governance and diversity firms use it to lower both tax payment and expense.

Watson (2015) expects that the fact that both social responsibility and irresponsibility are positively associated with tax avoidance suggests a more nuanced relation. By using the moderating variable of (expected) profitability, he proposes an explanation. He conducts his research using 7,297 firm-years for the years 2003 to 2009 from U.S. firms. In accordance with Hoi et al. (2013) and Huseynov & Klamm (2012), he exhibits that low CSR firms engage with tax avoidance. Watson (2015) posits that the relationship between CSR and tax avoidance is moderated by earnings performance. Watson copies the terms from the study of Hoi et al. (2013) and finds that socially irresponsible firms expecting low future profitability have lower ETRs than non-irresponsible firms expecting low profits. This relation does not exist for socially responsible firms with high future earnings performance. Although low CSR engagement leads to higher tax avoidance when earnings are low or expected to be low, this association does not hold if earnings are high or expected to be high.

Lanis & Richardson (2012) predict that ceteris paribus, firms that have a higher level of CSR activity have a lower level of tax aggressiveness. In their study they use CSR disclosure as a proxy for CSR activity, based on the positive relationship between performance and reporting quality (Clarkson, Li, Richardson, & Vasvari, 2008). Using a sample of 408 corporations in Australia for the years 2008 and 2009, they apply a Tobit regression and find that disclosure significantly lowers tax aggressiveness. Drawing on the same premise as in 2012, Lanis & Richardson (2015) apply other measures of CSR and try to improve the gauges in their prior work. They compare tax-avoidant and

non-tax-avoidant firms by looking at the tax disputes and book-tax differences in the period 2003-2009. Employing a sample of 434 firm-year observations, they regress tax avoidance against CSR strengths and concerns. Again, they exhibit that high-quality CSR activities lower tax avoidance.

## 2.5 The differences in corporate culture between America and Europe

In prior research, the relationship between CSR and tax avoidance was examined while using predominantly American companies. In this thesis a European sample is used to look into the relationship. The differences between European and American firms reside in corporate culture and investor protection. La Porta et al. (1998) argue in their paper that across the globe, different ownership patterns exist. This is the result of divergent law systems within countries and creates corresponding expropriation possibilities for management, controlling shareholders and minority shareholders. La Porta et al. (2000) demonstrate that these law systems are less or more apt for shareholders to be protected. The Anglo-Saxon law system is on average more suitable for investor protection compared to Germanic or Scandinavian law systems. According to La Porta et al. (2002) this results in different corporate cultures between America and Europe. Whereas American firms are subject to the Anglo-Saxon law system (common-law), European firms are subject to civil law (La Porta et al. 2002; Leuz et al., 2003), which suffers in comparison to common law reduced investor protection. The United Kingdom is an exception and has more shareholder characteristics (Ball et al., 2000; Leuz et al., 2003).

Although the legal framework is not similar, the introduction of this thesis stated that CSR engagement and tax avoidance are not unworldly to European firms. The differences in investor protection can indicate differences in the perception of European firms towards CSR and tax avoidance, but the existence of the connection between the variables can also be expected in Europe. However, it may be that the relationship varies between the United Kingdom (shareholder-oriented) and the other European firms (predominantly stakeholder-oriented) and therefore these subsamples are examined. To the best of knowledge, the connection between CSR and tax avoidance has not been examined using solely European firms.[4] In order to predict the direction of the relationship between CSR and tax avoidance in Europe, it is useful to include shareholder theory, stakeholder theory and risk management theory as a theoretical explanation for the results in prior research.

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[4] Kiesewetter & Manthey (2017) have examined the relationship between firm value and the ETR using European firms. ETR was also regressed separately against CSR but although it gave significant results this was not the aim of the study nor the take-away.

## 2.6 Shareholder theory, stakeholder theory and risk management theory

The perspectives on CSR are partly based on shareholder and stakeholder theory. Shareholder theory was originally proposed by Friedman (1970) who narrows the sole responsibility of business down to the enhancement shareholder value. Management should undertake actions to maximize shareholder value and abandon anything not contributing to this goal. If managers of a firm are solely occupied with profit maximization for shareholders, the reason for engagement with CSR will also be susceptible to this line of approach. Both firms with high and low CSR engagement will thus try to lower their tax payments. Increasing importance on the CSR performance will therefore not necessarily lead to a higher or lower tax payment. Tax payment will simply be adapted to the level of profit maximization. Increasing payment if the (reputational) costs outweigh the merits, decreasing payment if the benefits are stronger than the costs (Lev et al.,2010). The latter will occur up to a common level (Huseynov, Sardarli, & Zhang, 2017). Prior research have exhibited a relationship in America between CSR and tax avoidance (e.g. Davis et al., 2016; Hoi et al., 2013). It can be argued that this relationship is characterized by stakeholder theory (Hoi et al., 2013), by which CSR and tax avoidance act complementarily or as substitutes inspired by a risk management approach (Davis et al., 2016).

Opposed to shareholder theory, stakeholder theory orders the firm to represent all the different stakeholders who can be affected or are affected by the organization (Freeman, 1984). This affection can be determined from a narrow and a wide perspective. Within a narrow view, stakeholders are limited to third parties who are the most affected by the organization's policies. This comprises shareholders, management, creditors, employees, and customers who are dependent upon the organization's output. Wider stakeholders are less affected by these policies and include often government, less-dependent customers and the community as a whole, and other parties of interest (Evan & Freeman, 1993). If an organization makes a decision, it should consider all pros and cons of the stakeholders involved. Similarly, a broader view on CSR is adopted as proposed by Moser and Martin (2012): CSR activities comprise corporate actions affecting all of the firm's stakeholders including both wide and narrow stakeholders. If stakeholder theory is used to predict the relationship between CSR and tax avoidance, there will be a difference between higher and lower engagement firms. CSR engagement firms have metaphorically climbed up the pyramid to a higher level. From an ethical and philanthropic perspective a broad range of stakeholders is taken into account when making business decisions. Tax authorities, customers and society as a whole will incur diminishing wealth, if strategic tax planning is used to lower tax payments. Stakeholder theory would thus argue a negative relationship between CSR engagement and tax avoidance.

Although the majority of research suggests a negative relationship between CSR engagement and tax avoidance, Davis et al. (2016) exhibit a positive one. Their evidence suggests that higher CSR

engagement firms regarded CSR and paying taxes as substitutes. This substitution takes place as a part of internal risk management. For both CSR and tax avoidance, reputational risk management is at the core of determining whether to engage with it or not. Reputational risks associated with negative corporate events can be mitigated via positive CSR. According to this arjkgument, managers will adopt CSR to hedge against the potential reputational damage –which can lead to financial damage (Hoi et al., 2013). Another argument to support a positive relationship between CSR and tax avoidance would be that the additional profits arisen from tax avoidance can be used to donate to charity or to communal development. Hence, paying taxes would detract from social welfare (Davis et al., 2016).

In this thesis the contributions and research directions of Davis et al. (2016) are taken into account with regard to the methodology and sample selection but due to the predominant amount of negative exhibited relationships in other research, a negative relationship is hypothesized. Consistent with stakeholder theory, European firms are believed to be more stakeholder-oriented and thus more likely to implement CSR practices based on their own believes instead of a risk-protection shield. Therefore, higher CSR engagement firms will be less likely to avoid taxes compared to lower CSR engagement firms (Hoi et al., 2013; Huseynov & Klamm, 2012; Lanis & Richardson, 2012; Lanis & Richardson, 2015; Watson, 2015):

| H1: | *CSR engagement in Europe is negatively related to tax avoidance.* |

## 2.7 Earnings quality & Periodic differences

In prior research, managers' characteristics were used to explain the engagement in tax avoidance (Dyreng et al., 2010; Rego & Wilson, 2012) and could be limited by effective corporate governance (Desai & Dharmapala, 2006; Desai et al., 2007; Armstrong et al., 2015). The effectiveness to control management is an important mechanism to allow or disallow management to engage in tax avoidance. If a broader perspective of stakeholders (Moser & Martin, 2012) is adopted, tax avoidance can be perceived as negative behaviour. Effective control can therefore moderate the relationship between CSR and tax avoidance. This thesis will use earnings management (EM) to measure the quality of earnings. If management is able to override and smooth earnings, the quality of earnings will be lower and EM will be higher. Previous literature has looked into the connection between CSR and EM (Kim et al., 2012) and the connection between EM and tax avoidance (Frank et al., 2009).

Kim et al. (2012) postulate that CSR and EM are associated negatively. Likewise, their evidence exhibits that management which engages in CSR is more likely to constrain earnings management. The premise holds both for discretionary accruals (DA) EM and real activities

manipulation (RAM) EM and supports their transparent financial reporting hypothesis. If management were to behave opportunistically, this would have supported their opportunistic financial reporting hypothesis, as was done in the study by Prior, Surroca, & Tribo (2008). [5] All in all, it is posited that CSR firms are more likely to have a lower level of EM, both for DA as for RAM.

Frank et al. (2009) looked into EM and aggressive tax avoidance. They found a strong significant positive relationship between this relationship. If managers were to engage in EM, they most likely would also engage in tax avoidance activities, although this depends on the extent of book-tax conformity to which they are subject (Badertscher, Phillips, Pincus, & Rego, 2009). DA earnings management[6] is used to investigate tax sheltering, the permanent book-tax differences and the discretionary portion of the permanent book-tax differences.

Based on foregoing discoveries, Hoi et al. (2013) and Watson (2015) use DA EM in their study to ensure the association between CSR engagement and tax avoidance is not driven by earnings quality. In both studies this control variable is significant for one or more measurements of tax avoidance. It may well be that earnings quality indicates the tension for management to engage in tax avoidance and that the tone set by the level of CSR engagement constrains or allows managers to engage in earnings smoothing via accrual-based or real activities manipulation earnings management.

Based on the stakeholder theory as developed in the prior section, the quality of earnings can have a moderating role. Management of firms with superior earnings quality, i.e. less detected EM, will be more inclined to fulfil the fiduciary role appointed to them. If this role is based on the stakeholder theory, in which all kinds of interests of stakeholders are taken into account to determine the firm's stance, CSR engagement is probably adopted throughout the company and this contributes to earnings quality (Kim et al. 2012). The negative relationship between CSR and tax avoidance will be strengthened by a higher earnings quality. Vice versa, an increase in earnings management (lower earnings quality) will lead to more tax avoidance. Hence, firms with CSR engagement and inferior quality will be more likely to engage in tax avoidance compared to CSR engagement firms with superior earnings quality.

The following alternative hypothesis can be formulated:

| H2: | *CSR engagement firms in Europe with more earnings management are more likely to engage in tax avoidance.* |
|---|---|

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[5] This thesis does not seek to explain the differences in these studies, but wants to use it to explain the implications of using EM as a measurement.
[6] DFIN is used in the study by Frank et al. (2009).

### 2.7.1. Periodic differences

In accordance with the introduction, the perception of what types of tax reduction strategies are tolerable changed for both tax businessmen and the general public. Different economic behaviour and psychology studies (DeZoort et al.,2018; Kirchler et al., 2003; Kirchler & Hoelzl, 2017; Torgler, 2007) exhibit this. For firms this is of importance because tax strategies may cause reputational harm. Concerns for the reputation are indiscependable for making decisions, and tax planning strategies are also measured by this yardstick (Graham et al., 2014). Since the tolerance for dubious tax strategies has decreased over the years, a decline in tax avoidance can be expected. The cut-off date to separate the two different time periods, is artificially made based on the availability of data. Consistently, this leads to the last hypothesis:

| | |
|---|---|
| H3: | *Ceteris paribus, CSR engagement firms in Europe in the first time period are more likely to be tax-avoidant compared to CSR engagement firms in Europe in the second time period.* |

# Chapter 3
## Research Design

### 3.1 Sample

The sample consists of all European firms for which data was available in the years 2002-2017, using the ASSET4 and Worldscope database from Thomson Reuters Datastream. The sample starts in 2002 because the coverage in this database expands for that year and later years. Opposed to prior studies (Davis et al., 2016; Hoi et al., 2013; Kim et al., 2012), the Kinder, Lyndenberg and Domini (KLD) database was not used to construct the CSR performance. The reason lies in the coverage and availability for European firms. This dataset is predominantly a reflection of US and S&P 500 firms and does only include quite limited and superficial data for firms outside this spectrum. Constructing a performance-based score would be bound to this limitation. Since the ASSET4 database allows for a large enough sample to derive meaningful interpretations, this is also used as a starting point. Prior research has pointed out that obtaining CSR data is the bottleneck of the sample acquisition. ASSET4 provides for 1,159 unique European firms CSR performance data for the years 2002-2017. This amount is reduced in accordance with prior research (Zimmerman, 1983) with companies with a negative income or tax refunds[7], because their ETRs are derailed. Following prior literature (Hoi et al. 2013; Kim et al., 2012; Watson, 2015), financial, insurance and real estate companies (SIC codes 6000-6999) are removed from the sample, due to the industry specific regulatory environments. Moreover, financial, insurance, and real estate companies have a different VAT regime than most other companies in Europe. Based on the VAT-Directive[8] articles 135, 137, 143 these industries render and supply services and goods which are exempt without the right to deduct. Hence, the ETR is automatically higher in comparison with other industries. The process is depicted in Table 2.

|  | Firm-year observations |
|---|---|
| Tax stats for CSR sample | 24,213 |
| (Removal of prior years and missings) | -6,901 |
| Original CSR sample | 17,312 |
|  |  |
| (Removal of SIC 6000-6999) | (-4496) |
| Remaining observations | 12,816 |

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[7] Negative income for 1 year (GAAP_ETR/CASH_ETR) or on average for five years (LR_CASH_ETR).
[8] Council Directive 2006/112/EC of 28 November 2006 on the common system of value added tax.

| | | |
|---|---|---|
| (Removal of negative income) | (-7631) | |
| (Removal of countries with less than 20 observations) | (-56) | |
| Sample | 5,129 | |

*Table 2 Composition of Data Sample*

| Country | Freq. | Percent | Cum. |
|---|---|---|---|
| AT | 60 | 1.17 | 1.17 |
| BE | 140 | 2.73 | 3.90 |
| CH | 331 | 6.45 | 10.35 |
| DE | 735 | 14.33 | 24.68 |
| DK | 114 | 2.22 | 26.91 |
| ES | 300 | 5.85 | 32.75 |
| FI | 173 | 3.37 | 36.13 |
| FR | 702 | 13.69 | 49.81 |
| UK | 1,653 | 32.23 | 82.04 |
| GR | 119 | 2.32 | 84.36 |
| HU | 35 | 0.68 | 85.05 |
| IE | 42 | 0.82 | 85.86 |
| IT | 315 | 6.14 | 92.01 |
| NL | 92 | 1.79 | 93.80 |
| NO | 86 | 1.68 | 95.48 |
| PL | 125 | 2.44 | 97.91 |
| SE | 107 | 2.09 | 100.00 |
| Total | 5,129 | 100.00 | |

*Table 3 Countries included in sample*

Portugal and the Czech Republic were removed from the sample. As table 3 indicates, 32.23% of the firms included are domiciled in the United Kingdom and the final sample comprises of 5,129 firm-year observations covering the period of 2002-2017. Especially the removal of firms with a negative income in one or more period resulted in a steep decline in the number of observations.

## 3.2 Measurement

### 3.2.1 Independent variable

CSR was in prior research measured by constructing a set of performance indicators to separate between good and bad performers. Kim et al. (2012) argue that the majority of research using CSR used the KLD database to establish criteria. This database uses a combination of surveys, financial statements, articles in the popular press and academic journals, to assess social performance along 6 dimensions, which are: corporate governance, community, diversity, employee relations, environment and product (Kim et al., 2012). CSR scores are then computed as a net score of CSR

ratings measured as total strengths minus total concerns for all the dimensions, but corporate governance. Corporate governance is removed to disentangle the effect of CSR and corporate governance (Davis et al., 2016; Kim et al., 2012).

Unfortunately, the KLD database does not include enough European data to construct the surrogate for CSR performance in a similar manner. To compute CSR performance, the ASSET4 database is used. This index is based on four pillars of corporate responsible behaviour: the corporate governance pillar, the economic pillar, the environmental pillar, and the social pillar. In accordance with prior literature (Davis et al., 2016; Hoi et al., 2013; Kim et al., 2012), the corporate governance pillar is removed from the computation to untwine the effect of governance on CSR and tax avoidance and is used as a control variable. In order to comprehend the approach of the ASSET4 index, the construction of the pillar scores is provided in *appendix A*. The three pillars used for this examination have scores for 13 categories based on more than 450 different performance indicators. In addition, these scores are aggregated and used to construct weighted scores ranging from 0 to 100%. Whereas prior research uses the KLD database to construct binary variables (Davis et al., 2012; Hoi et al., 2013; Kim et al., 2012), this thesis uses ordinary variables to cover CSR engagement.

### 3.2.2 Dependent variable

Tax avoidance has been subject of examination in various research topics (Hanlon & Heitzman, 2010). Prior literature used different measurement to capture this variable. Especially, the following five measurements were used in prior literature (Hanlon & Heitzman, 2010): ETR _GAAP (Chen et al., 2010; Huzeynov & Klamm, 2012; Rego, 2003); (LONG-TERM) CETR (Chen et al., 2010; Davis et al., 2016; Dyreng et al., 2008; Dyreng et al., 2010; Hoi et al., 2013); book-tax difference (Frank et al., 2009; Hoi et al., 2013); Desai & Dharmapala or discretionary book-tax difference (Desai & Dharmapala, 2006; Desai & Dharmapala, 2009; Frank et al., 2009; Hoi et al., 2013); and tax shelter activity (Frank et al., 2009; Hoi et al., 2013; Rego & Wilson, 2012; Wilson, 2009). Due to the different technicalities of the measurements, Hanlon and Heitzman (2010) emphasize that not every measurement is equally appropriate for all research question. Sometimes the gauges are not adequate to capture tax avoidance, e.g. measuring tax avoidance via transfer pricing by sheltering activity will not work because this will not result in a book-tax difference. The common Desai and Dharmpala (2006) method to compute on book-tax differences is hardly applicable to this sample, since the statutory tax rate is not the same for the different countries. Also, examining FIN 48 as done by Hoi et al. (2013), is not possible because European firms are not as striclty required by IFRS or local GAAPs to disclose uncertainties or risks in income taxes. Since a broad definition of tax avoidance is adopted, more measurements must be used to capture tax avoidance. Acuminated on the topic of this thesis, three

measurements are used as proxy for tax avoidance.

Firstly, GETR is used to capture the total tax expense as it is reported in the books. This measure captures nonconforming tax avoidance. Opposed to conforming tax avoidance which captures both tax and income differences, this comprises strategies that reduce income tax liabilities but not financial statement income (Badertscher, Katz, Rego, & Wilson, 2019; Hanlon & Heitzman, 2010). GETR affects accounting earnings but cannot detect deferral strategies, by which is meant taking a deduction and moving it into an earlier year or deferring income to a later year to benefit from the time value of money. However, this measurement is able to detect changes in accounting accruals, which is biased for using CETR and is a proper indication indication for permanent book-tax differences. Therefore this measure also captures (less in depth) the permananent book-differences and the discretionary book-tax differences. Thus, the GETR for a given firm $i$ for year $t$ is given by[9] (Dyreng et al., 2008):

$$\text{GETR}_{i,t} = \frac{Tax\ expense_{it}}{Pretax\ income_{it}} \qquad\qquad (I)$$

Secondly, CETR is used to capture cash taxes paid because this method is widely used in tax literature and is adequate for the sample and research objectives. Opposed to shelter activity, this method is not estimated based on a set of broad firm characteristics (Rego & Wilson, 2012; Wilson, 2009) but is computed using archival data. Additionally, it can capture both temporary and permanent tax avoidance strategies (Rego & Wilson, 2012; Watson, 2015) and is not affected by changes in estimation such as valuation allowance (Dyreng et al., 2008). CETR differs to GETR in two ways: it does not have an impact on accounting earnings and allows for capturing deferral strategies. In that way the effective tax rates measures are complements to capture a broader range of tax avoidance possibilities by managers. The outflow of cash tax disclosed in the annual cash flow statements is used instead of the expenses in the income statement. Thus, the CETR for a given firm $i$ for year $t$ is given by[10] (Dyreng et al., 2008):

$$\text{CETR}_{i,t} = \frac{Cash\ Tax\ Paid_{i,t}}{Pretax\ income_{i,t}} \qquad\qquad (II)$$

Lastly, due to flaws of CETR, the long-run cash effective tax rate (LCETR) is also used. The CETR is an adequate mean to control for deferral strategies but over short time it is an imperfect

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[9] Worldscope's equivalent of the Compustat items used in prior research is referring to these items as Income Taxes (01451) and Pre-tax income (01401)

[10] Worldscope's equivalent of the Compustat items used in prior research is referring to these items as Taxation (04150) and Pre-tax income (01401). Special items/extraordinary items are excluded.

measure of avoidance since it includes payments and refunds from tax authorities which are not definitely aligned with that current year (Dyreng et al., 2008). Adding more years to the equation circumvents year-to-year volatility and controls for the mismatch of cash taxes and earnings (Hanlon & Heitzman, 2010). Following, Davis et al. (2016), five-year cash ETRs are used to adopt the proposed long-run measure by Dyreng et al. (2008). Thus, LCETR for a given firm $i$ for year $t\text{-}4$ to year $t$ is given by:

$$LCETR = \frac{Cash\ Tax\ Paid_{i,t-4} + \cdots + Cash\ Tax\ Paid_{i,t}}{Pretax\ income_{i,t-4} + \cdots + Pretax\ income_{i,t}} \qquad (III)$$

### 3.2.3 Moderating variables

EM has been used extensively as a surrogate for the quality of financial reporting (e.g. Badertscher et al., 2009; Frank et al, 2009; Kim et al., 2012; Hoi et al., 2013) and can be executed in two different ways: firstly, management can use its power to override and adjust accruals. Secondly, management may manipulate real activities to shift earnings between periods. The most common methods to detect these types of EM are the modified Jones-model with performance correction for discretionary accruals (Jones, 1991; Dechow & Dichev, 2002; Kothari, Leone, & Wasley, 2005) and the real activities manipulation model (Cohen, Dey, & Lys, 2008; Roychowdhury, 2006; Zang, 2012). The explanation of the computation and calculation of the two models is provided in appendices B and C. Following Kim et al. (2012), both methods are adopted to detect EM because management will probably depend its choice on which mechanism is the least costly (Cohen et al., 2008; Zang, 2012).

Discretionary accruals EM is captured by the cross-sectional version of the modified Jones model, since this model has a superior specification and has the least data limitations (Kim et al., 2012). The model is estimated using data matching year t-1 and two digit-SIC industry groupings. To correct for performance, lagged return on assets (ROA)[11] is included as proposed by Kothari et al. (2005). According to Kothari et al. (2005), accruals of firms that have experienced unusual performance are expected to be non-zero and thus the firm performance is correlated with the accruals. The discretionary accurals (the $\varepsilon_{it}$) are used as a proxy for earnings quality. The values are obtained by Ordinary Least Squares (OLS) analysis. The absolute value of the discretionary accruals (DA) are employed because an income-increasing accrual in one period will be related to in an income-decreasing accrual in the next period (Cohen et al., 2008). The first measurement of EM is therefore: $EM = ABS\_DA$.

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[11] Current ROA is taken because the evidence of Kothari et al. (2005) suggests that current year ROA performs better if the firm is matched to the year with the closest ROA when computing the discretionary accruals.

Real activities manipulation earnings management is captured by three different measurements of activity manipulation. Following Cohen et al. (2008), three separate proxies are used to address the fact that manipulation may reside in abnormal activity, and these proxies are combined to create the measurement. The three proxies used are: (1) abnormal levels of operating cash flows (AB_CFO), (2) abnormal production cost (AB_PROD), (3) abnormal discretionary expenses (AB_EXP). A combined measure of the previous methods is used to conduct research. Again, the abnormal levels are computed by the residual of the relevant models matched to year and two-digit SIC industry groupings. The rationale of the first three models on manipulation of the activities and its impact is the following:

(1) If sales are boosted via price discounts and lenient credit terms, this will only temporarily increase sales volumes and this effect will probably disappear if the firm returns to its ordinary prices and terms. The acceleration of the sales will boost periodic earnings. However, these discounts and more leniet credit terms will result in lower cash flows in that period. Lower negative residuals of this model will indicate sales manipulation to manage earnings upward.

(2) If the production is increased more than necessary, and especially if more units are produced, fixed overhead costs can be spread over a larger number. This decreases cost of goods sold (COGS) and operating margins will increase. High positive values of the residual indicate that activities are manipulated via overproduction.

(3) Reducing expenses which are not or only partly related to the production process could cover management intententions to manage earnings and therefore are also taken into account. Decreases in discretionary expenses, comrpising advertising expense, research development expenses, and selling, general, and administrative expenses, will also boost current earnings. As with the residuals of operating cash flows, low negative residuals indicate that firms cut discretionary expenses to boost earnings (Cohen et al. 2008; Braam, Nandy, Weitzel, & Lodh, 2015).

In sum, managers that manage earnings upward probably will have unusually low cash flow from operations, and/or unusually low discretionary expenses and/or unusually high production costs (Cohen et. al., 2008). Whereas Cohen et al. (2008) sum all these variables, this thesis adopts the method of Braam et al. (2015), who, for interpretation purposes, report the reverse scores of AB_CFO and AB_EXP. Higher residuals will result for all the surrogates in higher levels of RAM. The second measurement of EM is therefore: $EM = COMBINED\_RAM$.

### 3.2.4 Control variables

To avoid problems with omitted correlated variables, control variables are included. The control variables are picked from prior research (Davis et al., 2016; Hoi et al., 2013; Kim et al., 2012; Watson, 2015) which established the effect of these variables on the relationship between CSR and tax avoidance.[12] The predicted effect is explained in this section and the definitions of the variables are provided in table 3.

Consistent with literature, the size of the firm (SIZE), the debt-to-assets ratio (LEV) and the market-to-book ratio (MTB) are seen as important determinants of CSR and tax avoidance (Davis et al., 2016; Hoi et al., 2013; Kim et al., 2012; Watson, 2015). Intuitively, for SIZE and MTB a higher value and for leverage a lower value would indicate the (extraordinary) possibilities of the firms of to engage with tax avoidance. Moreover, the amount of employees (EMP) could influence the relationship. Hoi et al. (2013) find conflicting results and Watson (2015) exhibits a negative relationship between EMP and tax avoidance. Other firm-specifics are also taken into account: the part of intangible assets (INTAN), the fixed assets (PPE), profitability (ROA), and liquidity (CASH). Firstly, Intangible and fixed assets often result in permanent book-tax differences, which are captured by the GAAP_ETR. Secondly, according to Watson (2015), a lower profitability of a firm will result in higher tax avoidance and thus this must be controlled for. Thirdly, more liquidity increases the aggressive tax planning options and will increase tax avoidance (Davis et al., 2016). Finally, foreign income indicates the possibilities for firms to shift earnings and make use of transfer pricing.

In addition to the firm specific assets and ratios, the corporate governance pillar scores (CGOV) from the ASSET4 database are used to control for corporate governance. Using the corporate governance component of the CSR dataset is consistent with Davis et al. (2016) and Watson (2015) and was recommended by Hoi et al. (2013). Subsequently, fixed year effects are included to account for annual tax code changes and industry fixed effects are included to give reason for the variation of tax avoidance across industries. In accordance with Davis et al. (2016) and Zang (2012), the continuous control variables were winsorized at the 1% and 99% percentiles of their distribution, to prevent to suffer from outliers.

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[12] Davis et al. (2016) and Huseynov & Klamm (2012) also add discretionary expenses (R&D, advertising and SG&A expenses) to the control variables. These variables will be captured by RAM EM, and will not be included in those regressions.

| Control Variable | Explanation |
|---|---|
| $CG_{it}$ | Corporate governance pillar score of the ASSET4 database for firm i, year t |
| $SIZE_{it}$ | Natural logarithm of total assets for firm i, year t |
| $LEV_{it}$ | Leverage for firm i, year t, measured as long-term debt plus short-term debt scaled by lagged total assets |
| $MTB_{it}$ | Market-to-Book ratio of firm i, year t computed as the price per share times total common shares outstanding over the book value of equity |
| $INTAN_{it}$ | Intangible assets of firm i, year t, scaled by lagged total Assets |
| $PPE_{it}$ | Property, plant and equipment for firm i, year t, scaled by lagged total assets. |
| $ROA_{it}$ | Return on assets measured as pre-tax income for firm i, year t, scaled by lagged total assets |
| $CASH_{it}$ | Cash and cash equivalents of firm i, year t, scaled by lagged total assets |
| $EMP_{it}$ | The natural logarithm of the number of employees for firm i, year t |

*Table 4 Explanation of Control Variables*

## 3.3 Econometric models

The composition of the econometric models is based on the discussion of the variables and the proposed hypotheses. The baseline models are established as follows:

Model 1.I, 1.II, 1.III

$$TA_{it} = \beta_0 + \beta_1 CSR_{SCORE\,it} + \beta_2 EM_{it} + \sum \beta_{3...n} CONTROLS_{it} + Year\ Fixed\ Effects_i + \quad (1)$$
$$Industry\ Fixed\ Effects_{it} + Country\ Fixed\ Effects_{it} + \varepsilon_{it}$$

Where,

TA is one of three different variables

*(I)      GETR: total income tax expense divided by total pre-tax accounting income.*

*(II)     CETR: cash taxes paid divided by pre-tax income*

*(III)    LCETR: five year sum from year t-4 to year t of cash taxes paid divided by the five year sum of pre-tax income less special items.*

*And CSR_SCORE is based on the weighted scores of the economic, environmental and social pillar. The control variables employed are displayed in table 4.*

Model 2:

$$TA_{it} = \beta_0 + \beta_1 CSR_{SCORE\,it} + \beta_2 EM_{it} + \beta_3 CSR_{SCORE\,it} * EM_{it} + \sum \beta_{3...n} CONTROLS_{it} + \quad (2)$$
$$Year\ Fixed\ Effects_i + Industry\ Fixed\ Effects_{it} + Country\ Fixed\ Effects_{it} + \varepsilon_{it}$$

To investigate the last hypothesis the following time-periods are used to substitute t in models 1 and 2:

$$t = 2002 \dots 2010\ or\ t = 2010 \dots 2017$$

*Chapter 4*
*Results*

This section describes the empirical results of the data analysis. First of all, the descriptive statistics of the main variables are provided to reveal the first insights into the obtained dataset. Secondly, the means of the dependent and independent variables are classified by industry. In section 4.2, the Pearson's correlations are shown to analyze inter-correlation between the variables. Section 4.3 discusses the multivariate regression outcomes for Model I and II and looks at the different time frames.

## 4.1 Descriptive statistics

Table 5 provides the number of observations, the mean, the standard deviation, the median, the value at the 1$^{st}$ percentile, the value at the 25$^{st}$ percentile (1Q), the value at the 75$^{st}$ percentile (3Q), the value at the 99st percentile and the t-value of all the main variables. Panel A provides the values for the whole sample, panel B provides this only for the UK sample and panel C for all other firms domiciled in Europe.[13] Panel A indicates that the mean of the GETR is quite comparable to the statutory European corporate tax rate average being 26% between 1996 and 2018 (Trading Economics, 2019). The mean values of the CETR and LCETR are a bit higher than in prior research with a focus on American firms (Hoi et al., 2013; Davis et al., 2016). For example, the mean value of CETR is around 3% higher than exhibited by Hoi et al. (2013) and Watson (2015), and the LCETR is around 2% higher than the mean for US firms (Davis et al., 2016). The standard deviation is higher compared to all prior research. A European database with multiple taxes rates implies naturally that there will be more difference. A more striking difference is the dissimilarity of the standard deviation of the CETR and LCETR. When the long-run approach is taken, this standard deviation is much lower as pointed out by Hanlon and Heitzman (2010). The LCETR averages out the incidental lower or higher effective tax payments and constructs a more happy medium, circumventing year-to-year volatility.

The mean of the independent CSR variables are all above 50, indicating that the sample consists of firms with on average firms doing well on the CSR performance indicators. The mean of the equally weighted overall CSR performance score is 62.8. The mean of the environmental score and the social score exceeds this overall score with a performance of respectively 64.4 and 64.6 per cent. The mean of the economic performance falls a bit short on this score with 59.5 per cent. The standard deviation for all the variables varies in the bandwidth of 24.7 and 28.8 per cent. In prior research this score based on a calculation of summing strengths and concerns and could be between

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[13] The other control variables were all quite similarly and are therefore not shown separately.

-5 and +5.

Corporate governance is structured as a control variable and has a lower mean compared to the other CSR performance indicators. The mean values of the Kothari models are lower than prior research (Hoi et al., 2013; Kim et al., 2012), as is the standard deviation. This could indicate that there is less detected EM in Europe when measured through discretionary accruals. The real activities are also less manipulated compared to prior research (Kim et al., 2012). Due to the reversed reporting of the abnormal level of cash flow from operations and a negative value of the abnormal level of production, the mean value can be negative. All the other continuous variables are approximately in line with the values of prior research.

**Panel A: Summary statistics of full sample**

| | N | Mean | St.Dev | Median | p1 | 1Q | 3Q | p99 | t-value |
|---|---|---|---|---|---|---|---|---|---|
| Dependent | | | | | | | | | |
| GETR | 4726 | .265 | .185 | .251 | -.322 | .191 | .314 | 1.257 | 100.238 |
| CETR | 4395 | .262 | .268 | .233 | -.607 | .162 | .323 | 1.622 | 65.65 |
| LCETR | 3503 | .282 | .141 | .265 | .038 | .201 | .331 | .911 | 120.243 |
| Independent | | | | | | | | | |
| CSR | 5129 | 62.825 | 25.817 | 68.358 | 7.677 | 42.143 | 86.433 | 95.813 | 174.059 |
| ENV | 5129 | 64.351 | 29.284 | 74.71 | 9.67 | 37.54 | 91.28 | 96.67 | 157.178 |
| SOC | 5129 | 64.646 | 28.761 | 73.215 | 5.37 | 41.81 | 90.41 | 98.07 | 160.769 |
| EC | 5129 | 59.477 | 30.112 | 66.59 | 2.51 | 32.89 | 87.25 | 98.2 | 141.277 |
| Moderating | | | | | | | | | |
| ABS DA | 5129 | .084 | .084 | .063 | .001 | .03 | .112 | .389 | 70.95 |
| C_RAM | 5129 | -.005 | .191 | .028 | -.714 | -.08 | .109 | .351 | -1.8 |
| Control | | | | | | | | | |
| CG | 5129 | 54.569 | 27.988 | 57.455 | 3.09 | 30.41 | 79.69 | 96.21 | 139.431 |
| ABS DA | 5129 | .084 | .084 | .063 | .001 | .03 | .112 | .389 | 70.95 |
| C_RAM | 5129 | -.005 | .191 | .028 | -.714 | -.08 | .109 | .351 | -1.8 |
| MTB | 5129 | 3.472 | 6.51 | 1.938 | -4.942 | 1.135 | 3.511 | 34.764 | 38.193 |
| SIZE | 5129 | 15.187 | 1.595 | 14.996 | 11.806 | 14.082 | 16.194 | 19.284 | 681.769 |
| LEV | 5129 | 2.193 | 7.679 | .214 | 0 | .062 | 1.072 | 43.852 | 20.431 |
| INTAN | 5129 | 1.548 | 5.161 | .096 | 0 | .094 | .413 | 31.164 | 21.473 |
| PPE | 5129 | .28 | .226 | .229 | .003 | 0 | 0 | .898 | 88.582 |
| ROA | 5129 | .009 | .024 | .002 | -.004 | .049 | .147 | .126 | 25.995 |
| CASH | 5129 | .119 | .107 | .089 | .008 | .007 | .602 | .558 | 79.863 |
| EMP | 5129 | 23972.17 | 45599.93 | 6040 | 0 | 1589 | 21911 | 209000 | 37.429 |

**Panel B: Summary statistics of UK firms**

| | N | Mean | St.Dev | Median | p1 | 1Q | 3Q | p99 | t-value |
|---|---|---|---|---|---|---|---|---|---|
| Dependent | | | | | | | | | |
| GETR | 1478 | .239 | .192 | .224 | -.383 | .177 | .29 | 1.257 | 48.672 |
| CETR | 1514 | .233 | .283 | .212 | -.76 | .151 | .284 | 1.866 | 32.637 |
| LCETR | 1258 | .272 | .155 | .243 | .031 | .189 | .313 | .911 | 63.183 |
| Independent | | | | | | | | | |
| CSR | 1648 | 58.075 | 25.679 | 60.078 | 8.37 | 35.877 | 81.608 | 95.707 | 91.811 |
| ENV | 1648 | 59.584 | 28.799 | 65.51 | 10.16 | 30.97 | 88.555 | 96.59 | 83.99 |
| SOC | 1648 | 61.152 | 28.419 | 67.155 | 6.64 | 36.32 | 87.58 | 98 | 87.354 |
| EC | 1648 | 53.488 | 30.23 | 54.78 | 2.11 | 25.49 | 81.02 | 98.09 | 71.829 |
| Moderating | | | | | | | | | |
| ABS DA | 1648 | .0842 | .078 | .064 | .001 | .034 | .113 | .389 | 43.743 |
| C_RAM | 1648 | .012 | .213 | .041 | -.813 | -.058 | .135 | .388 | 2.347 |
| Control | | | | | | | | | |
| CG | 1648 | 66.077 | 26.434 | 75.605 | 3.67 | 47.86 | 86.875 | 97.04 | 101.477 |

**Panel C: Summary statistics of non-UK firms**

| | N | Mean | St.Dev | Median | p1 | 1Q | 3Q | p99 | t-value |
|---|---|---|---|---|---|---|---|---|---|
| Dependent | | | | | | | | | |
| GETR | 3248 | .277 | .18 | .265 | -.218 | .202 | .327 | 1.257 | 89.101 |
| CETR | 2881 | .277 | .259 | .251 | -.441 | .171 | .341 | 1.583 | 58.165 |
| LCETR | 2245 | .288 | .132 | .274 | .04 | .212 | .339 | .863 | 104.709 |
| Independent | | | | | | | | | |
| CSR | 3481 | 65.082 | 25.578 | 71.487 | 7.303 | 45.61 | 87.827 | 95.9 | 149.841 |
| ENV | 3481 | 66.616 | 29.244 | 80.2 | 9.37 | 41.81 | 91.84 | 96.73 | 134.146 |
| SOC | 3481 | 66.307 | 28.778 | 76.12 | 5 | 45.18 | 91.26 | 98.11 | 135.686 |
| EC | 3481 | 62.323 | 29.639 | 70.675 | 2.81 | 37.68 | 88.64 | 98.29 | 123.828 |
| Moderating | | | | | | | | | |
| ABS DA | 3481 | .0838 | .087 | .061 | .002 | .029 | .062 | .390 | 56.401 |
| C_RAM | 3481 | -.013 | .179 | .024 | -.593 | -.096 | .026 | .351 | -4.256 |
| Control | | | | | | | | | |
| CG | 3481 | 49.097 | 27.033 | 48.875 | 2.92 | 25.44 | 72.68 | 95.09 | 106.924 |

*Table 5 Descriptive statistics of the main variables*
*All independent continuous variables are winsorized at the 1st and 99th percentiles.*
*An overview of all the variable definitions can be found in appendix D.*

| Industry | GETR | CETR | LCETR | CSR | ENV | SOC | EC | CG | N |
|---|---|---|---|---|---|---|---|---|---|
| Agriculture, Mining, Construction | .306 | .289 | .323 | 64.173 | 65.516 | 64.912 | 62.091 | 59.307 | 483 |
| Manufacturing: Food, Wood, Paper, Chemicals | .25 | .265 | .287 | 64.451 | 66.201 | 66.121 | 61.032 | 55.86 | 1066 |
| Manufacturing: Industrial and Electric | .255 | .25 | .264 | 59.412 | 59.716 | 60.717 | 57.804 | 45.793 | 1197 |
| Transportation, Communications, Utilities | .271 | .261 | .26 | 69.694 | 71.451 | 72.032 | 65.599 | 58.823 | 906 |
| Wholesale & Retail Trade | .282 | .283 | .282 | 61.5 | 64.274 | 64.747 | 55.478 | 60.172 | 667 |
| Services: Business and Recreation | .257 | .248 | .306 | 57.196 | 57.802 | 59.208 | 54.577 | 49.892 | 618 |
| Services: Health and Engineering | .251 | .217 | .285 | 62.185 | 67.321 | 63.397 | 55.838 | 61.991 | 219 |

*Table 6 mean values of dependent and independent variables by industry.*
*An overview of all the variable definitions can be found in appendix D.*

Although the (untabulated) control variables were quite the same, there are some differences in the other variables. All of the mean values of the effective rates are lower for the UK firms, indicating that the tax rates in the UK are lower than the European mean. Additionally, the mean values of all of

the CSR performance indicators are lower but the standard deviation is quite comparable. The biggest difference can be found in the combined real activities manipulation measurement (in table 5 abbreviated as C_RAM). The mean of the UK firms is positive (C_RAM: $M$ = .012, $SD$), which indicates more overall manipulation, while the mean of the European non-UK firms is negative (C_RAM: $M$ = -.013). The mean value of the discretionary accruals does barely differ. Control variable corporate governance is much higher for UK firms compared to than European non-UK firms, conform the differences in investor protection between countries made by La Porta et al. (2000) and Leuz et al. (2003).

Table 6 provides the mean of the dependent and independent variables by industry. Industries operating within the field of finance, insurance and real estate (sic code 6000-6999) were left out of the investigation. The other seven industry categories are based on the primary digit of the sic code.[14] It shows that firms occupied with transportation and utilities have the highest mean for the CSR variables ($M$ = 69.7), but the corporate governance category. Especially, their environmental and social performances are superior to the other industry categories. The highest mean of the effective tax rate belongs to firms occupied with agriculture, mining, and construction for all of the three effective tax rates. Probably, this is the result of the higher amount of fixed assets, such as machinery which cannot be moved for tax purposes due to their characteristics and the circumstances of the industry, i.e. the profit of mining can only be allocated to the place where the mine is located. Another topic of interest is the difference between the GETR/CETR and LCETR. The yearly effective tax rates are much lower than the average cash tax rate, LCETR. This holds for almost all the industries as is also indicated by Appendix E, which provides trend graphs of the dependent and independent variables. As the mean of LCETR is increasing, CETR and GETR are decreasing over the years. Table 6 shows that the largest difference of the yearly and average tax avoidance measurements can be found within the industries of business services and health services. It could well be that these businesses have a more volatile performance environment.

## 4.2 Pearson's correlations
Table 7 provides the Pearson's correlations of all of the main variables. The dependent variables show a positive significant correlation with each other. CETR and GETR are highly correlated with each other, $r$ = .7, $p$ < .01. But the correlation of the CETR and GETR with LCETR is much lower, with $r$ = .27 ($p$ < 0.01) and $r$ = .29 ($p$ < 0.01) respectively. The CSR components are also positively correlated with each other. Especially, the social and environmental score have a high correlation, $r$ = .78, $p$ < 0.01. The corporate governance category is lower correlated with the other CSR components and the overall CSR measure than the other components, which is in line with prior research (Davis et al.,

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[14] The sic code of all firms within industry category 'Agriculture, Mining, Construction' starts with 1, etc.

2016; Kim et al., 2012). The CSR components and the effective tax rates are all positively correlated with each other, but the corporate governance category. This is an additional indication that the corporate governance category behaves differently compared to other CSR performance indicators. The slight positive correlation between effective tax rates and CSR is also found in aforementioned literature but Davis et al. (2016), who find a slight negative correlation. The correlation of these dependent and independent variables are rather low. In accordance with Frank et al. (2009), table 7 shows that discretionary accruals are negatively correlated to all of the effective tax rates (GETR: $r = -.05$, $p < 0.01$; CETR: $r = -.06$, $p < 0.01$; LCETR: $r = -.11$, $p < 0.01$), which indicate that the management of earnings correlates with tax avoidance. This does not hold for the real activities manipulation (GETR: $r = -.01$, $p > 0.1$; CETR: $r = -.04$, $p < 0.05$; LCETR: $r = .02$, $p > 0.1$). These results are mixed and statistically weaker. However, activity manipulation does indicate a higher CSR performance, especially for the environmental component, $r = .1$, $p < 0.01$.

Moreover, control variable SIZE is positively related to the tax rates (GETR: $r = .05$, $p < 0.01$; CETR: $r = .10$, $p < 0.01$; LCETR: $r = .16$, $p < 0.01$), which is not in line with prior research. Rego (2003) found that SIZE is negatively associated with tax rates, because larger firms have more opportunities to allocate profit. Almost all other control variables are negatively correlated with the tax rates and with the CSR components. To discuss some of them: if firms are more liquid (CASH), they are more likely to have a lower tax rate (GETR: $r = -.03$, $p < 0.05$; CETR: $r = -.04$, $p < 0.05$; LCETR: $r = -.06$, $p < 0.01$) and perform more poorly on the CSR measurements (CSR: $r = -.03$, $p < 0.05$; ENV: $r = -.04$, $p < 0.01$; SOC: $r = -.05$, $p < 0.01$; EC: $r = -.0001$, $p > 0.1$), according to the correlations. Meanwhile, a higher profitability is also associated with lower tax rates (GETR: $r = -.05$, $p < 0.01$; CETR: $r = -.06$, $p < 0.01$; LCETR: $r = -.11$, $p < 0.01$), indicating a tendency to avoid taxes.

Although some correlations are quite high, there are no multicollinearity problems to be resolved. All regressions displayed are checked for severe multicollinearity problems but in the unreported results none of them showed a VIF above the 5. This indicates that multicollinearity is not an issue and the statistical significance and the coefficients do not become troublesome to interpret.

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| (1) GETR | 1.00 | | | | | | | |
| (2) CETR | 0.70*** | 1.00 | | | | | | |
| (3) LCETR | 0.29*** | 0.27*** | 1.00 | | | | | |
| (4) CSR | 0.04*** | 0.04*** | 0.05*** | 1.00 | | | | |
| (5) ENV | 0.04** | 0.04*** | 0.04** | 0.88*** | 1.00 | | | |
| (6) SOC | 0.04** | 0.04*** | 0.06*** | 0.92*** | 0.78*** | 1.00 | | |
| (7) EC | 0.03** | 0.03* | 0.04** | 0.84*** | 0.56*** | 0.65*** | 1.00 | |
| (8) CG | -0.01 | 0.01 | 0.01 | 0.51*** | 0.44*** | 0.50*** | 0.39*** | 1.00 |
| (9) ABS_DA | -0.05*** | -0.06*** | -0.11*** | -0.02 | -0.04** | -0.02 | 0.00 | -0.05*** |
| (10) C_RAM | -0.01 | -0.04** | 0.02 | 0.05*** | 0.10*** | 0.03** | 0.01 | -0.01 |
| (11) MTB | 0.01 | 0.00 | -0.02 | -0.04** | -0.04*** | -0.05*** | -0.01 | -0.08*** |

| Variables | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) |
|---|---|---|---|---|---|---|---|---|
| (12) SIZE | 0.05*** | 0.10*** | 0.16*** | 0.07*** | 0.07*** | 0.06*** | 0.05*** | -0.04** |
| (13) LEV | -0.04** | -0.02 | 0.01 | -0.03** | -0.02 | -0.02 | -0.03** | -0.04*** |
| (14) INTAN | -0.04*** | -0.04** | -0.02 | -0.05*** | -0.04*** | -0.06*** | -0.04*** | -0.06*** |
| (15) PPE | 0.03** | -0.00 | 0.00 | 0.05*** | 0.03** | 0.03** | 0.08*** | 0.02 |
| (16) ROA | -0.05*** | -0.06*** | -0.11*** | -0.02 | -0.03** | -0.02 | 0.01 | 0.03** |
| (17) CASH | -0.03** | -0.04** | -0.06*** | -0.03** | -0.04*** | -0.05*** | -0.00 | -0.07*** |
| (18) EMP | -0.03* | -0.02 | -0.02 | 0.02* | 0.03** | 0.02 | 0.01 | -0.04*** |

| Variables | (9) | (10) | (11) | (12) | (13) | (14) | (15) | (16) | (17) | (18) |
|---|---|---|---|---|---|---|---|---|---|---|
| (1) GETR | | | | | | | | | | |
| (2) CETR | | | | | | | | | | |
| (3) LCETR | | | | | | | | | | |
| (4) CSR | | | | | | | | | | |
| (5) ENV | | | | | | | | | | |
| (6) SOC | | | | | | | | | | |
| (7) EC | | | | | | | | | | |
| (8) CG | | | | | | | | | | |
| (9) ABS_DA | 1.00 | | | | | | | | | |
| (10) C_RAM | 0.00 | 1.00 | | | | | | | | |
| (11) MTB | 0.05*** | -0.01 | 1.00 | | | | | | | |
| (12) SIZE | -0.17*** | 0.14*** | 0.01 | 1.00 | | | | | | |
| (13) LEV | 0.09*** | -0.12*** | -0.05*** | -0.26*** | 1.00 | | | | | |
| (14) INTAN | 0.08*** | -0.13*** | -0.03** | -0.29*** | 0.77*** | 1.00 | | | | |
| (15) PPE | -0.02 | 0.05*** | -0.04*** | 0.10*** | -0.06*** | -0.01 | 1.00 | | | |
| (16) ROA | 0.23*** | -0.19*** | 0.03** | -0.48*** | 0.26*** | 0.31*** | -0.03** | 1.00 | | |
| (17) CASH | 0.45*** | -0.13*** | 0.03** | -0.18*** | 0.14*** | 0.14*** | -0.16*** | 0.35*** | 1.00 | |
| (18) EMP | -0.01 | -0.00 | -0.07*** | 0.01 | 0.36*** | 0.35*** | 0.04*** | -0.00 | 0.01 | 1.00 |

*Table 7 an overview of the Pearson's correlations.*
*The levels of statistically significance are denoted by asterisks. Where *** denotes statistical significance at the <0.01 level,*
*** denotes statistical significance at the <0.05 level, and * denotes statistical significance at the *<0.1 level.*
*An overview of all the variable definitions can be found in appendix D.*

## 4.3 Multivariate analysis

The empirical results are provided in this section. To test the hypothesis, all of the regressions are conducted using the pooled OLS model with robust standard errors, in accordance with prior research (Davis et al., 2016; Hoi et al., 2013; Huseynov & Klamm, 2012; Watson, 2015),. The reason to use this type of standard errors is based on the heteroscedasticity analysis, which indicated the ordinary effects suffered from estimation biases when predicting the probabilities of the coefficients. Subsequently, as a complementary and sensitivity analysis fixed effects regressions are also estimated for LCETR and for GETR. The use of the fixed effects model seeks to solve the problem of the biased estimators for permanent time differences (Petersen, 2009; Wooldridge, 2012).

### 4.3.1 Baseline regressions

Hypothesis 1 stated that CSR is negatively associated with tax avoidance in Europe. Table 8 shows the baseline regressions of the relationship between the different CSR components and control variable

corporate governance and tax avoidance.[15] The baseline regression of CSR performance as averaged-weighted mixture of the different components, can be found in appendix F. Using this baseline regressions, the hypothesis comprising all European firms must be rejected. When the entire sample is used in table 5, models (1), (2), and (3), there are barely effects from this baseline regression between CSR components and tax avoidance as for instance the environmental performance shows (GETR: $\beta$ = .0000, $p$ > .1; CETR: $\beta$ = .0001, $p$ >.1; LCETR: $\beta$ = -.0002, $p$ > .1). However, the effects do occur when the sample is split between firms domiciled in the UK and firms domiciled in the remaining European countries. For UK firms the environmental performance is positively associated with tax avoidance (LCETR: $\beta$ = -.0009, $p$ < .01) and the social performance is negatively associated with tax avoidance (LCETR: $\beta$ = .0008, $p$ < .01) and the economic performance is marginally significant indicating a positive tendency (LCETR: $\beta$ = -.0003, $p$ < .1). For non-UK firms only the environmental showed marginally significant preventing of tax avoidance (LCETR: $\beta$ = .0003, $p$ < .1). In this case, table 8 exhibits that for UK firms the environmental performance of CSR there is a positive relationship with tax avoidance and it suggests that there is a negative relationship between the social performance and tax avoidance. The economic magnitude of the betas is small and comparable to prior research (Davis et al., 2016; Hoi et al., 2013; Huseynov & Klamm, 2012; Watson, 2015). Since tax rates are not easily altered, it can be expected that the results are modest (Davis et al., 2016). According to Leuz et al. (2003), the United Kingdom has a different corporate culture than most of the other firms used. Designated from the legal origins (La Porta et al., 1998; 2000), European firms are not subdued to similar corporate cultures. The corporate culture of the United Kingdom has much more in common with the culture of the sample of prior conducted research, such as the United States and Australia. The results of the regression show that firms domiciled in the UK and firms domiciled in other European countries differ. The remainder of the analysis are conducted with this separation of the firms' heritage.

Prior research (Huseynov & Klamm, 2012; Lanis & Richardson, 2015) have also separated different components of CSR to discriminate between the effects of CSR performance on tax avoidance. The components comprised in their study are corporate governance, community and diversity. The component community that has some linkage with the social pillar used in this thesis has a significant positive effect on the effective tax rate in both studies (Huseynov & Klamm, 2012; Lanis & Richardson, 2015). The negative effect of the social performance on tax avoidance for UK firms was partly exhibited in the work of Husyenov and Klamm (2012). The environmental pillar was not taken into account in their research and corporate governance (LCETR: $\beta$ = .0003, $p$ > .1; LCETR: $\beta$

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[15] Without Corporate Governance the results are quite similar and adding this control variable to the baseline regressions does not alter models (4) and (5) much.

= -.0001, $p$ > .1) does not show significance in table 8.

| | (1) GETR | (2) CETR | (3) LCETR | (4) LCETR UK | (5) LCETR NO UK |
|---|---|---|---|---|---|
| ENV | 0.0000 | 0.0001 | -0.0002 | -0.0009*** | 0.0003* |
| | (0.14) | (0.60) | (-1.19) | (-4.00) | (1.78) |
| | | | | | |
| SOC | -0.0001 | 0.0002 | 0.0002 | 0.0008*** | -0.0001 |
| | (-0.60) | (0.61) | (1.62) | (3.30) | (-0.73) |
| | | | | | |
| EC | 0.0001 | -0.0001 | -0.0000 | -0.0003* | 0.0002 |
| | (0.95) | (-0.39) | (-0.37) | (-1.75) | (1.60) |
| | | | | | |
| CG | 0.0001 | 0.0001 | 0.0001 | 0.0003 | -0.0001 |
| | (1.04) | (0.58) | (0.54) | (1.60) | (-0.56) |
| | | | | | |
| Constant | 0.3379*** | 0.1793*** | 0.2590*** | 0.3322*** | 0.1965*** |
| | (13.27) | (3.18) | (11.32) | (12.43) | (6.85) |
| | | | | | |
| Year effects | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes |
| Country effects | Yes | Yes | Yes | No | Yes |
| Observations | 4726 | 4395 | 3503 | 1258 | 2245 |
| $R^2$ | 0.073 | 0.043 | 0.087 | 0.095 | 0.139 |
| Adjusted $R^2$ | 0.065 | 0.034 | 0.076 | 0.077 | 0.124 |

*Table 8 OLS regression with robust standard errors. T-statistics are reported in parentheses. The levels of statistically significance are denoted by asterisks. Where \*\*\* denotes statistical significance at the <0.01 level, \*\* denotes statistical significance at the <0.05 level, and \* denotes statistical significance at the \*<0.1 level. An overview of all the variable definitions can be found in appendix D. Models (1), (2), (3) are run with the full sample, model (4) is run with only firms domiciled in the United Kingdom which according to Leuz et al. (2003) belongs to the same corporate culture as the United States. Model (5) is executed with firms domiciled in the other European countries in the sample which have more similarities.*

### 4.3.2 Model I

While the results of table 8 are interesting, it is difficult to draw meaningful interpretations of the effect without inclusion of the control variables. Table 9 provides the regressions of the different tax avoidance measurements, for both UK firms and non-UK firms, with the different CSR components and control variables. In comparison with the baseline regressions, the results do not change LCETR seems to be the best measure to capture the effects of CSR on tax avoidance. Although there are more observations for both GETR and CETR for these measurements, they have more difficulties to predict the relationship. As the descriptive statistics indicated it could be that the CETR differs too much from year to year to make a proper estimation. Hanlon and Heitzman (2010) argue that the GETR cannot detect deferral strategies. Possibly, firms make more use of these strategies to avoid taxes and if so, LCETR is compared to CETR the superior measure to capture this (Hanlon and

Heitzman, 2010). The $R^2$ corroborates this line of thought and is higher ($R^2$= .171; $R^2$= .181) for both the UK as the non-UK sample compared to the $R^2$ of the GETR and CETR. As the baseline regressions presented, the effect of the CSR components differs much between firms domiciled in the UK and firms domiciled elsewhere in Europe. In model (3), UK firms exhibited a negative significant effect of environmental performance on the effective tax rate ($\beta$ = -.0008, $p$ < .01) and a positive significant effect of the social performance on this rate ($\beta$ = .0006, $p$ < .05). While this result is economically modest, it suggests that different performance indicators of CSR are also regarded differently. Overall the CSR In model (6), the non-UK firms exhibit a significant positive relationship between the environmental performance and the effective tax rate (LCETR: $\beta$ = .0004, $p$<.05). This suggests that the performance indicators have a different effect compared to the UK sample. Likewise, the unreported result of the weighted-average score of CSR also showed that for UK firms CSR performance is positively related to tax avoidance and for non-UK firms this is the opposite. This has the same tendency as the baseline regression shown in appendix F.

Table 9 also presents the coefficients of the control variables. Earnings management through discretionary accruals shows a negative relationship ($\beta$ = - .1290, $p$ < .1; $\beta$ = -.0785, $p$ < .05) with the effective tax rates in models (3) and (6). Both for UK and non-UK firms financial aggressive reporting contributes to tax avoidance, as was also found by Frank et al. (2009). EM through real activities manipulation was only significant for the CETR of UK firms ($\beta$ = .1031, $p$ < .01). Corporate governance has a significant positive effect on the tax rate for UK firms if measured via LCETR ($\beta$ = .0004, $p$ < .05) and for non-UK firms if measured via the GETR ($\beta$ = .0004, $p$ < .01). Opposed to the findings of Rego (2003) and Dyreng et al. (2008), SIZE is positively related to the LCETR ($\beta$ = .0155, $p$ < .01) and the CETR ($\beta$ = .0117, $p$ < .01) of non-UK firms. Larger firms tend to pay a higher share of taxes than smaller firms. Reputational concerns could be an explanation why larger firms would not take the risk of tax avoidance, consistent with the political cost hypothesis by Zimmerman (1983). A larger amount of plant, property and equipment (PPE) adds to the tax rate for UK firms when measured via GETR ($\beta$ = .1072, $p$ < .01) and CETR ($\beta$ = .0880, $p$ < .01) , and for non-UK firms when measured via CETR ($\beta$ = -.0840, $p$ < .01) or LCETR ($\beta$ = .0355, $p$ < .05). With a vast amount of fixed assets such as property and factories it will be harder to shift profits because these assets are bound to their location. Additionally, property taxes will also be higher for these firms. A positive significant relationship between PPE and ETR was not found in prior research. Watson (2015) exhibited a negative significant relationship and others found an insignificant but predominantly negative relationship (Davis et al., 2016; Hoi et al., 2013) or did not include this (Huseynov & Klamm, 2012; Lanis & Richardson, 2012). ROA has for all but one (CETR: $\beta$ = .0002, $p$ > .1) a negative effect on the effective tax rate, while this differs from Dyreng et al. (2008), it is found by Huseynov & Klamm (2012) and Hoi et al. (2013). It could be that firms with more profitability are more willing to maintain a profit after taxes to impress

shareholders and use means to lower their taxes. CASH also has an ambiguous result with a positive effect on tax avoidance for the UK firms (LCETR: β = -.1169, $p < .05$) and a negative effect for non-UK firms (LCETR: β = .1130, $p < .01$).

| | (1)<br>GETR<br>UK | (2)<br>CETR<br>UK | (3)<br>LCETR<br>UK | (4)<br>GETR<br>NO UK | (5)<br>CETR<br>NO UK | (6)<br>LCETR<br>NO UK |
|---|---|---|---|---|---|---|
| ENV | -0.0004 | 0.0002 | -0.0008*** | 0.0002 | 0.0003 | 0.0004** |
| | (-1.31) | (0.34) | (-3.35) | (1.28) | (1.31) | (2.37) |
| SOC | 0.0001 | 0.0004 | 0.0006** | -0.0003 | -0.0004 | -0.0003 |
| | (0.45) | (0.89) | (2.30) | (-1.56) | (-1.28) | (-1.55) |
| EC | -0.0002 | -0.0006** | -0.0002 | 0.0003** | 0.0003 | 0.0002 |
| | (-0.82) | (-2.00) | (-1.07) | (2.06) | (1.36) | (1.16) |
| CG | -0.0003 | -0.0001 | 0.0004** | 0.0004*** | 0.0003 | 0.0000 |
| | (-1.05) | (-0.37) | (2.03) | (2.76) | (1.20) | (0.28) |
| ABS_DA | -0.0354 | 0.0251 | -0.1290* | -0.0408 | -0.1006 | -0.0785** |
| | (-0.40) | (0.24) | (-1.67) | (-1.12) | (-1.54) | (-2.39) |
| COMBINED_RAM | -0.0123 | -0.1031*** | 0.0382 | -0.0108 | -0.0143 | -0.0038 |
| | (-0.52) | (-2.90) | (1.34) | (-0.51) | (-0.47) | (-0.26) |
| MTB | 0.0012** | 0.0015** | -0.0001 | -0.0001 | -0.0006 | -0.0006 |
| | (2.34) | (2.18) | (-0.16) | (-0.35) | (-1.09) | (-1.63) |
| SIZE | 0.0014 | 0.0081 | -0.0011 | -0.0026 | 0.0117*** | 0.0155*** |
| | (0.34) | (1.11) | (-0.28) | (-1.03) | (2.91) | (6.81) |
| LEV | -0.0009 | 0.0014 | 0.0013* | 0.0003 | 0.0013 | 0.0009* |
| | (-0.77) | (0.63) | (1.82) | (0.53) | (1.09) | (1.71) |
| PPE | 0.1072*** | 0.0880*** | -0.0062 | -0.0301 | -0.0840*** | 0.0355** |
| | (3.82) | (2.92) | (-0.39) | (-1.61) | (-2.90) | (2.23) |
| ROA | -0.0008 | 0.0002 | -0.0101*** | -0.0058*** | -0.0066*** | -0.0049*** |
| | (-0.35) | (0.05) | (-3.05) | (-4.90) | (-3.65) | (-3.77) |
| CASH | -.1401** | -0.1651** | -0.1169** | 0.0310 | 0.0250 | 0.1130*** |
| | (-2.41) | (-2.29) | (-2.41) | (0.97) | (0.50) | (2.97) |
| INTAN | -0.0012 | -0.0036** | 0.0062*** | -0.0000 | 0.0001 | -0.0013* |
| | (-1.05) | (-1.98) | (3.27) | (-0.06) | (0.06) | (-1.75) |
| EMP | -0.000*** | -0.0000*** | -0.0000*** | -0.0000* | -0.0000* | -0.0000 |
| | (-2.77) | (-2.89) | (-10.68) | (-1.88) | (-1.93) | (-0.53) |

| | | | | | | |
|---|---|---|---|---|---|---|
| Constant | 0.3972*** | 0.1476 | 0.3872*** | 0.3527*** | 0.0187 | -0.0686 |
| | (4.19) | (1.07) | (5.77) | (6.91) | (0.19) | (-1.40) |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Country effects | No | No | No | Yes | Yes | Yes |
| Observations | 1478 | 1514 | 1258 | 3248 | 2881 | 2245 |
| $R^2$ | 0.078 | 0.047 | 0.171 | 0.102 | 0.070 | 0.181 |
| Adjusted $R^2$ | 0.056 | 0.024 | 0.147 | 0.087 | 0.054 | 0.162 |

*Table 9 OLS regression with robust standard errors.*
*T-statistics are reported in parentheses. The levels of statistically significance are denoted by asterisks.*
*Where \*\*\* denotes statistical significance at the <0.01 level, \*\* denotes statistical significance at the <0.05 level, and \* denotes statistical significance at the \*<0.1 level. An overview of all the variable definitions can be found in appendix D. Model (1), (2), and (3) are run with only firms domiciled in the United Kingdom which according to Leuz et al. (2003) has similar characeristics compared to the same corporate culture as the United States. Model (4), (5), (6) are executed with firms domiciled in the other European countries in the sample which have more similarities.*

### 4.3.3 Model II

Econometric model II was executed using an interaction term between the CSR components and the different types of earnings management for LCETR, the model with the best fit. Table 10 is exhibited to test the second hypothesis. It displays the outcome of these regressions and reports the small significant interactions of economic performance and discretionary accruals and of real activities manipulation and environmental performance. For comparison purposes, model (1) and (2) are added. These are duplicates of model (3) and (6) in table 9. Hypothesis 2 has to be rejected for the majority of the proxies used for EM and CSR engagement. Most of them were insignificant, and for space limitation these are not reported.

Table 10 suggests that only for UK firms with a mean environmental score and a mean real activities manipulation, the tax rate is lower ($\beta$ = -.0013, $p$ < .1). Note that the mean of the COMBINED_RAM differs between the UK and non-UK firms sample. In table 5 can be seen that for UK firms the combined real activities manipulation measurement is positive ($M$ = .12, $SD$ = .213) and for non-UK firms this is negative ($M$ = -.013, $SD$ = .179). With this in mind, shifting of real activities between periods seems to contribute to the tax rate, but statistical evidence is inconclusive in model (1) of table 10 ($\beta$ = .0382, $p$ > .1). Once again, the effect is different for UK and non-UK firms. For UK firms, when the mean value of RAM and the mean value of environmental performance occur, the effective tax rate drops ($\beta$ = -.0013, $p$ < .1). Compared to the result of non-UK firms this makes sense.

Model (3) and (4) show the interaction between the economic performance and discretionary accruals. Economic performance reflects the company's overall health and ability to generate long-term shareholder value. If the firm is contributing wealth to its shareholders, such as gaining high margins and there is shifting of earnings, the tax rate is higher for UK firms ($\beta$ = .0035,

*p*<.1). For non-UK firms, the results is inconclusive ($\beta$ = -.0006, *p*>.1), which is also in contradiction with the second hypothesis.

| | (1) LCETR UK | (2) LCETR NO UK | (3) LCETR UK | (4) LCETR NO UK | (5) LCETR UK | (6) LCETR NO UK |
|---|---|---|---|---|---|---|
| ENV | -0.0008*** | 0.0004** | -0.0008*** | 0.0004** | -0.0008*** | 0.0004** |
| | (-3.35) | (2.37) | (-3.45) | (2.37) | (-3.40) | (2.50) |
| SOC | 0.0006** | -0.0003 | 0.0006** | -0.0003 | 0.0006** | -0.0003* |
| | (2.30) | (-1.55) | (2.42) | (-1.55) | (2.43) | (-1.67) |
| EC | -0.0002 | 0.0002 | -0.0002 | 0.0001 | -0.0002 | 0.0002 |
| | (-1.07) | (1.16) | (-1.05) | (1.11) | (-1.08) | (1.18) |
| CG | 0.0004** | 0.0000 | 0.0004** | 0.0000 | 0.0004** | 0.0001 |
| | (2.03) | (0.28) | (2.12) | (0.26) | (2.18) | (0.38) |
| ABS_DA | -0.1290* | -0.0785** | -0.1055 | -0.0724* | -0.1205 | -0.0824** |
| | (-1.67) | (-2.39) | (-1.27) | (-1.72) | (-1.57) | (-2.51) |
| COMBINED _RAM | 0.0382 | -0.0038 | 0.0353 | -0.0033 | 0.0137 | -0.0098 |
| | (1.34) | (-0.26) | (1.25) | (-0.22) | (0.43) | (-0.64) |
| MTB | -0.0001 | -0.0006 | -0.0001 | -0.0006 | -0.0002 | -0.0006* |
| | (-0.16) | (-1.63) | (-0.34) | (-1.62) | (-0.48) | (-1.65) |
| SIZE | -0.0011 | 0.0155*** | -0.0010 | 0.0156*** | -0.0004 | 0.0157*** |
| | (-0.28) | (6.81) | (-0.26) | (6.84) | (-0.11) | (6.85) |
| LEV | 0.0013* | 0.0009* | 0.0014** | 0.0008 | 0.0013* | 0.0008 |
| | (1.82) | (1.71) | (1.98) | (1.63) | (1.75) | (1.57) |
| PPE | -0.0062 | 0.0355** | -0.0031 | 0.0358** | -0.0021 | 0.0351** |
| | (-0.39) | (2.23) | (-0.19) | (2.25) | (-0.13) | (2.20) |
| ROA | -0.0010*** | -0.0005*** | -0.0010*** | -0.0005*** | -0.0009*** | -0.0005*** |
| | (-3.05) | (-3.77) | (-3.01) | (-3.83) | (-2.82) | (-3.82) |
| CASH | -0.1169** | 0.1130*** | -0.1271** | 0.1119*** | -0.1092** | 0.1117*** |
| | (-2.41) | (2.97) | (-2.56) | (2.95) | (-2.26) | (2.93) |
| INTAN | 0.0062*** | -0.0013* | 0.0059*** | -0.0013* | 0.0065*** | -0.0011 |
| | (3.27) | (-1.75) | (3.11) | (-1.74) | (3.45) | (-1.45) |
| EMP | -0.0000*** | -0.0000 | -0.0000*** | -0.0000 | -0.0000*** | -0.0000 |
| | (-10.68) | (-0.53) | (-10.49) | (-0.53) | (-10.72) | (-0.61) |
| EC*DA | | | 0.0035* | -0.0006 | | |
| | | | (1.76) | (-0.38) | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| ENV*C_RAM | | | | | -0.0013* | 0.0008* |
| | | | | | (-1.85) | (1.82) |
| Constant | 0.3872*** | -0.0686 | 0.3843*** | -0.0709 | 0.3705*** | -0.0722 |
| | (5.77) | (-1.40) | (5.72) | (-1.44) | (5.52) | (-1.46) |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Country effects | No | Yes | No | Yes | No | Yes |
| Observations | 1258 | 2245 | 1258 | 2245 | 1258 | 2245 |
| $R^2$ | 0.171 | 0.181 | 0.173 | 0.181 | 0.173 | 0.182 |
| Adjusted $R^2$ | 0.147 | 0.162 | 0.149 | 0.162 | 0.149 | 0.162 |

*Table 10 OLS regression with robust standard errors.*
*T-statistics in parentheses. The levels of statistically significance are denoted by asterisks.*
*Where \*\*\* denotes statistical significance at the <0.01 level, \*\* denotes statistical significance at the <0.05 level, and \* denotes statistical significance at the \*<0.1 level. An overview of all the variable definitions can be found in appendix D. Model (1), (3), and (5) are run with only firms domiciled in the United Kingdom which according to Leuz et al. (2003) belongs to the same corporate culture as the United States. Model (2), (4), (6) are executed with firms domiciled in the other European countries in the sample which have more similarities.*

### 4.3.3 Periodic differences

The sample comprises years between 2002 and 2017. It is a possibility that there are different effects in different time periods. As indicated by hypothesis 3, it is expected that awareness on the tax avoidance topic has reduced tax-avoidant behavior in the second period. Table 11 shows that this has to be rejected. Model (1) and model (2) are executed with the whole sample. The first time period is done using observations from 2002 till 2012. For the second time period (2013-2017), i.e. model (2), the main results of the different CSR components remain significant (ENV: $\beta$ = -.0008, $p$ < .01; SOC: $\beta$ = .0008, $p$ < .01). However, the other models indicated that this is mainly the result of the UK firms. As model (6) of table 11 shows, if the UK firms are left out, the relationship is no longer significant (ENV: $\beta$ = .0003, $p$ > .1; SOC: $\beta$ = -.0002, $p$ > .1). For the UK sample, the coefficient referring to the effect of environmental performance decreases ($\beta$ = -.0017, $p$ < .01) and the effect of social performance increases ($\beta$ = .0020, $p$ < .01). Furthermore, the interaction term between environmental performance and RAM turns significant in the second time period. It seems as if after 2012 for UK firms, more RAM and a higher environmental performance increases tax avoidance ($\beta$ = -.0024, $p$ < .05).

The non-UK sample also shows differences between the two time periods. Firstly, the environmental score is significantly positively related to the effective tax rate in the first time period ($\beta$ = .0006, $p$ < .05). Over the years, this effect fades away. In the second time period the CSR scores no longer have a significant effect. Secondly, the economic component contributes to the tax rate in the first time period ($\beta$ = .0005, $p$ < .01), but this effect fades away. Thirdly, the interaction term between environmental performance and RAM turns marginally significant in the second time period

($\beta$ = .0011, $p$ < .1). After 2012, non-UK firms experience less tax avoidance when the RAM is lower and the environmental performance is higher. Fourthly, the corporate governance performance evolves over the years to a mean to lower tax avoidance for the non-UK firms sample ($\beta$ = .0005, $p$ < .05) and this effect does not seem to hold for the UK firms sample ($\beta$ = .0000, $p$ > .1). Finally, the discretionary accruals are only significant in the first time period ($\beta$ = .1374, $p$ < .05) and this effect also fades away.

Concluding, it cannot be argued that there is more tax avoidance in the first period. It depends on the sample used and the component of CSR used to capture the effect. The overall tendency of CSR is a positive effect on tax avoidance in the first period and a positive effect in the second period, but due to the different relationships between the components and the effective tax rate, no conclusive evidence on CSR performance as a whole can be found. Discretionary accruals also seem to have a higher impact on tax avoidance, especially for the UK sample.

| | (1) LCETR, <2012 | (2) LCETR, >2012 | (3) LCETR, UK, <2012 | (4) LCETR, NO UK, <2012 | (5) LCETR, UK, >2012 | (6) LCETR, NO UK, >2012 |
|---|---|---|---|---|---|---|
| ENV*CRAM | -0.0000 | -0.0003 | -0.0006 | 0.0006 | -0.0024** | 0.0011* |
| | (-0.05) | (-0.47) | (-0.76) | (0.86) | (-2.11) | (1.68) |
| ENV | 0.0002 | -0.0008*** | -0.0005** | 0.0006** | -0.0017*** | 0.0003 |
| | (1.31) | (-3.26) | (-2.04) | (2.37) | (-4.04) | (0.99) |
| SOC | -0.0003 | 0.0008*** | 0.0001 | -0.0004 | 0.0020*** | -0.0002 |
| | (-1.27) | (3.22) | (0.31) | (-1.36) | (4.53) | (-0.72) |
| EC | 0.0002* | -0.0002 | 0.0000 | 0.0005*** | -0.0003 | -0.0002 |
| | (1.91) | (-0.91) | (0.05) | (2.68) | (-0.92) | (-0.71) |
| CG | -0.0001 | 0.0003 | 0.0005* | -0.0003 | 0.0000 | 0.0005** |
| | (-0.68) | (1.41) | (1.76) | (-1.41) | (0.05) | (2.05) |
| ABS_DA | -0.1403*** | -0.1020** | -0.0928 | -0.1374** | -0.3681*** | -0.0658 |
| | (-3.07) | (-2.13) | (-1.39) | (-2.20) | (-2.79) | (-1.54) |
| COMBINED _RAM | 0.0151 | 0.0023 | 0.0806** | 0.0010 | -0.0430 | -0.0124 |
| | (0.63) | (0.11) | (2.02) | (0.03) | (-0.91) | (-0.59) |
| MTB | -0.0002 | -0.0006 | -0.0006 | -0.0003 | 0.0063*** | -0.0012* |
| | (-0.82) | (-0.92) | (-1.49) | (-0.57) | (2.79) | (-1.82) |
| SIZE | 0.0064*** | 0.0114*** | 0.0046 | 0.0111*** | -0.0068 | 0.0191*** |
| | (2.73) | (3.51) | (1.28) | (3.34) | (-1.04) | (5.38) |

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| LEV | 0.0001 | 0.0014 | -0.0009 | 0.0021*** | 0.0037*** | -0.0005 |
| | (0.22) | (1.63) | (-1.21) | (2.69) | (4.05) | (-0.69) |
| PPE | -0.0208 | 0.0529*** | -0.0305 | 0.0003 | 0.0242 | 0.0721*** |
| | (-1.40) | (2.68) | (-1.61) | (0.02) | (0.87) | (2.88) |
| ROA | -0.1627 | -0.7681*** | -0.0975 | -0.3383* | -2.3376*** | -0.6361*** |
| | (-1.05) | (-3.01) | (-0.36) | (-1.94) | (-4.18) | (-2.86) |
| CASH | -0.0662* | 0.0368 | -0.1467*** | 0.0600 | -0.0272 | 0.1473*** |
| | (-1.72) | (0.73) | (-3.22) | (1.02) | (-0.28) | (2.60) |
| INTAN | 0.0022* | 0.0003 | 0.0089*** | -0.0014 | 0.0062*** | -0.0003 |
| | (1.88) | (0.22) | (2.94) | (-1.41) | (2.71) | (-0.28) |
| EMP | -0.0000*** | -0.0000** | -0.0000*** | -0.0000** | -0.0000*** | 0.0000 |
| | (-4.03) | (-2.14) | (-7.17) | (-2.24) | (-7.83) | (0.55) |
| Constant | 0.1873*** | 0.0894 | 0.2774*** | 0.0223 | 0.4507*** | -0.0732 |
| | (3.75) | (1.51) | (5.13) | (0.35) | (4.06) | (-1.07) |
| Year effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Industry effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Country effects | Yes | Yes | No | Yes | No | Yes |
| Observations | 1489 | 1719 | 570 | 919 | 592 | 1127 |
| $R^2$ | 0.159 | 0.119 | 0.239 | 0.237 | 0.216 | 0.186 |
| Adjusted $R^2$ | 0.132 | 0.097 | 0.196 | 0.198 | 0.181 | 0.156 |

*Table 11 OLS regression with robust standard errors.*
*T-statistics in parentheses. The levels of statistically significance are denoted by asterisks.*
*Where \*\*\* denotes statistical significance at the <0.01 level, \*\* denotes statistical significance at the <0.05 level, and \* denotes statistical significance at the \*<0.1 level. An overview of all the variable definitions can be found in appendix D. Models (1) and (2) are run with the full sample, models (3) and (5) are run with only firms domiciled in the United Kingdom which according to Leuz et al. (2003) belongs to the same corporate culture as the United States. Models (4) and (6) are executed with firms domiciled in the other European countries in the sample which have more similarities.*

## 4.4 Sensitivity analysis

In accordance with prior research, all the models are estimated using the pooled OLS model. This model allowed for controlling the fixed year, industry and country effects. For the models separated by time period it is important to use an non-fixed effects model because some of the independent variables change slowly over time, resulting in collinearity problems. However, this model has some limitations. For instance, there is a strong assumption that all the firms behave the same throughout all the years and, although some fixed effects correction mechanisms are employed, residuals may be correlated across firms or time (Petersen, 2009). The estimates of the coefficients derived may be subject to omitted variable bias. Although beforehand prior literature indicated many important variables, there is always a possibility that an unknown variable is omitted. Panel data controls for these variables, even when they are left out of the equation (Wooldridge, 2012). To control for this

bias, the fixed effects model[16] is also employed to look whether the results remain the same. The fixed effects model is powerful but has some limitations: variables which do not vary over time (or vary very slowly over time) cannot be measured and there is no possible variation for estimating effects that vary between economic entities (Wooldridge, 2012) because the effects have to be persistent over time.

Table 12 provides the fixed effects regression for the full sample, regressions with LCETR as the dependent variable separated between the UK and non-UK sample and regressions with GETR as the dependent variable separated between the UK and non-UK sample. The coefficients are quite comparable with the pooled OLS estimation. The biggest difference is the coefficient of the environmental performance for non-UK firms ($\beta$ = -.0003, $p$ > .1). Opposed to the pooled OLS, this is no longer significant and has changed from positive to negative. The full sample does show significance for both CSR ($\beta$ = -.0005, $p$ < .05) and the environmental performance ($\beta$ = -.0006, $p$ < .05) and this has a positive effect on tax avoidance. Another remarking resemblance is the corporate governance performance which is significantly negatively related to tax avoidance in the first two models ($\beta$ = .0005, $p$ < .05). The GETR also shows a negative relationship for social performance of UK firms ($\beta$ = .0008, $p$ < .1) and a negative one for economic performance of non-UK firms ($\beta$ = .0005, $p$ < .05). Economic performance will enhance shareholder value, which can contribute to a higher GAAP effective tax rate in the following way: due to the improved profit or attraction of shareholder, the liability to the tax authorities will increase. The discretionary accruals only show marginal significance for the GETR with non-UK firms ($\beta$ = .-1382, $p$ < .1).

The other control variables gave similar results in terms of coefficient but the results of SIZE and LEV. As was exhibited by Rego (2003), SIZE has a negative influence on LCETR ( e.g. $\beta$ = -.0796, $p$ < .001). Larger multinational firms are able to use their possibilities to lower effective taxes. Prior research (Davis et al., 2016; Hoi et al., 2013; Huseynov & Klamm, 2012; Watson, 2015), also predicted and found this result using the OLS models. A higher amount of debt scaled to assets (LEV) also contributes to tax avoidance tendencies ( e.g. $\beta$ = .0026, $p$ < .05). Firms with a larger amount of liabilities in respect of assets would probably want to use means to lower tax expenses to partially offset expected financial difficulties.

All in all, this sensitivity analysis shows that with the fixed effects model almost all of the coefficients have the same direction. There is a difference for the non-UK sample with regard to the environmental score and its effect on the tax rate and a direction swap for few control variables. This

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[16] After F-test, Breusch-Pagan test and Hausman-test, the fixed effects model with robust standard errors was superior to the random effects model. The other assumptions are also met. This encompasses a conditional mean of the errors which equals zero, the variables and error terms are independent and identically distributed (but observations may be correlated within an entity), large outliers are unlikely and there is no perfect multicollinearity (Wooldridge, 2012).

contributes to the idea that CSR and tax avoidance are related to each other in mixed ways.

| | (1) LCETR | (2) LCETR | (3) LCETR, UK | (4) LCETR, NO UK | (5) GETR, UK | (6) GETR, NO UK |
|---|---|---|---|---|---|---|
| CSR | -0.0005** | | | | | |
| | (-2.23) | | | | | |
| ENV | | -0.0006** | -0.0009** | -0.0003 | -0.0004 | -0.0001 |
| | | (-2.58) | (-2.31) | (-1.19) | (-0.71) | (-0.37) |
| SOC | | 0.0000 | 0.0002 | -0.0002 | 0.0008* | -0.0000 |
| | | (0.13) | (0.51) | (-0.70) | (1.87) | (-0.11) |
| EC | | -0.0000 | -0.0002 | 0.0001 | -0.0002 | 0.0005** |
| | | (-0.09) | (-0.66) | (0.47) | (-0.50) | (2.47) |
| CG | 0.0005** | 0.0005** | 0.0006 | 0.0004 | -0.0004 | 0.0003 |
| | (2.08) | (2.31) | (1.46) | (1.63) | (-0.85) | (1.10) |
| ABS_DA | 0.0121 | 0.0147 | 0.0128 | 0.0335 | -0.0038 | -0.1382* |
| | (0.20) | (0.25) | (0.17) | (0.42) | (-0.03) | (-1.95) |
| COMBINED _RAM | 0.0591 | 0.0587 | -0.0343 | 0.1304 | 0.1920 | 0.0382 |
| | (0.92) | (0.91) | (-0.33) | (1.58) | (1.24) | (0.77) |
| MTB | 0.0004 | 0.0004 | 0.0008* | -0.0004 | 0.0013* | 0.0004 |
| | (0.74) | (0.74) | (1.80) | (-0.60) | (1.88) | (0.91) |
| SIZE | -0.0792*** | -0.0796*** | -0.0928** | -0.0657** | -0.0871* | -0.0294* |
| | (-3.12) | (-3.16) | (-2.27) | (-1.97) | (-1.77) | (-1.81) |
| LEV | -0.0026** | -0.0026** | -0.0033 | -0.0015 | -0.0068** | 0.0017 |
| | (-2.44) | (-2.48) | (-1.14) | (-1.14) | (-2.26) | (1.27) |
| PPE | 0.1215** | 0.1222** | 0.1511* | 0.1213* | 0.2413* | 0.0195 |
| | (2.29) | (2.34) | (1.80) | (1.88) | (1.78) | (0.38) |
| ROA | -0.1988 | -0.1580 | -0.2918 | 0.2908 | -0.0694 | -0.2234 |
| | (-0.69) | (-0.55) | (-0.91) | (0.63) | (-0.10) | (-1.10) |
| CASH | 0.0186 | 0.0175 | -0.0808 | 0.1032 | -0.0840 | 0.0531 |
| | (0.29) | (0.28) | (-1.00) | (1.16) | (-0.94) | (0.78) |
| INTAN | 0.0010 | 0.0008 | -0.0006 | 0.0001 | 0.0009 | -0.0012 |
| | (0.79) | (0.67) | (-0.29) | (0.03) | (0.40) | (-0.83) |
| EMP | -0.0000 | -0.0000 | -0.0000 | -0.0000 | -0.0000 | -0.0000 |
| | (-0.81) | (-0.76) | (-1.51) | (-0.03) | (-0.30) | (-0.54) |

| | (1) | (2) | (3) | (4) | (5) | (6) |
|---|---|---|---|---|---|---|
| Constant | 1.4475*** | 1.4576*** | 1.6176*** | 1.2362** | 1.5166** | 0.7385*** |
| | (3.81) | (3.86) | (2.82) | (2.34) | (2.17) | (3.02) |
| Year fixed effects | Yes | Yes | Yes | Yes | Yes | Yes |
| Observations | 3503 | 3503 | 1258 | 2245 | 1478 | 3248 |
| $R^2$ | 0.039 | 0.043 | 0.088 | 0.043 | 0.058 | 0.017 |
| Adjusted $R^2$ | 0.032 | 0.035 | 0.067 | 0.031 | 0.039 | 0.008 |

*Table 12 Fixed effects regression with robust standard errors.*

*T-statistics in parentheses. The levels of statistically significance are denoted by asterisks.*

*Where \*\*\* denotes statistical significance at the <0.01 level, \*\* denotes statistical significance at the <0.05 level, and \* denotes statistical significance at the \*<0.1 level. An overview of all the variable definitions can be found in appendix D. Models (1) and (2) are run with the full sample, models (3) and (5) are run with only firms domiciled in the United Kingdom which according to Leuz et al. (2003) belongs to the same corporate culture as the United States. Models (4) and (6) are executed with firms domiciled in the other European countries in the sample which have more similarities.*

## Chapter 5
## Discussion and Conclusion

Chapter 5 discusses the results and tries to give explanations for the exhibited results. Moreover, it concludes the findings and addresses limitations and suggests future research directions.

### 5.1 Discussion

The results exhibited in this thesis are not conclusive and straightforward for the full European sample. They indicate that there are differences in perceptions of firms domiciled in different parts of Europe. Therefore, a difference between the UK firms and non-UK firms was made in accordance with Leuz et al. (2003), thereby separating between cultural identities. This changed the results drastically and gave an opportunity to compare the results with other Anglo-Saxon countries.

In light of the research question and the first hypothesis, opposite findings were exhibited, i.e. CSR firms did not pay more taxes. UK firms showed a positive association of environmental performance and tax avoidance but a negative association of social performance and tax avoidance. The negative association was predicted and also found in the majority of prior research. The social performance could thus be said to be the subject matter of CSR performance for UK firms. This indicator supports the findings of Hoi et al. (2013) and Watson (2015). Moreover, Lanis & Richardson (2015) found a similar result for the community and diversity categories of the KLD, which are categories that have indicators which are quite alike as the constructs of social performance.[17] Lanis & Richardson (2015) argue that community issues are relevant for society and taxation as this provides public goods to society, i.e. having a stronger connection to the community would strengthen the idea that tax payments provide benefits to the community. Having a more diverse board could also increase the effective tax rate, since women are stricter monitors (Adams & Ferreira, 2009) and especially extreme levels of tax avoidance will be restricted (Armstrong et al., 2015).

However, evidence suggests that UK firms have a conflicting relationship with CSR performance considering environmental affairs and paying taxes. It seemed that environmental performance was positively associated with tax avoidance, consistent with the anecdotal evidence of Sikka (2010). Davis et al. (2016) impose the positive relationship found in their study to the exclusion of the corporate governance category, sample composition, and the usage of the five-year average cash effective tax rate which averages out variation in the CETR due to profitability, accounting differences, and one-time events. However, their study (Davis et al., 2016) refers to the combined

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[17] These two categories have score indicators which are quite alike as the social performance used in this study, as appendix B of Hoi et al. (2013) shows.

measurement of CSR performance, whereas this study shows in the relationship for different performance indicators. Advocated by the risk management approach, it seems that UK firms see particularly environmental performance and taxes as substitutes rather than complements. This could be the result of two reasons. On one hand, it may be that environmental performance is imposed by government regulations while the companies are not intrinsically interested in higher performance. In this situation, the tax burden is reduced as an offsetting mechanism[18]. On the other hand, it could also suggest that UK firms use the environmental performance to appear green, benign-sounding and determined to solve global environmental issues, while in the same instance taxes are reduced. This would be an extension of the concept of greenwashing (Laufer, 2003), since also actual activities are undertaken to support the alleged green claim.

Simultaneously, corporate governance was in almost all models for UK firms a good mean to curb tax avoidance as predicted by Davis et al. (2016), Desai & Dharmapala (2006), and Desai et al. (2007). The models conducted imply that financial reporting aggressiveness also exists in Europe, influencing tax avoidance. Restriction of aggressive financial reporting may therefore also result in tax avoidance limitation (Frank et al., 2009). Mechanisms that carry out the values and social purposes of companies, can be used to restrict tax avoidance, as financial aggressiveness can be restricted (Kim et al., 2012). Huseynov & Klamm (2012) argue that corporate governance may also be applied to increase shareholder wealth. This was not found in this study. Perhaps, a far-reaching non-executive board is concerned with the inherent reputational risks which occur when companies engage in tax avoidance. Shareholders would in that case not be served but rather harmed when companies reduce their tax payments.

Non-UK firms show approximately opposing results. These firms seem to follow stakeholder theory, where CSR and taxes act as complements. However, this effect faded away over the years and with the sensitivity test. The contradictory results can possibly be explained by the difference in the role of CSR in UK and non-UK firms. Whereas the social component is (insignificantly) positively associated with tax avoidance, the environmental component is negatively associated with tax avoidance. Lanis & Richardson (2015) showed a trend for the environmental performance to reduce tax avoidance but for their US sample this was not significant. Non-UK European firms might consider environmental performance as the paramount CSR indicator. As is provided in table 5, panels B and C, the mean environmental score is much higher for non-UK European firms than for UK firms. Firms may try to contribute to both to the environment via their CSR performance and to the society via

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[18] This can be the UK government or the EU. In the report by the environmental Audit Committee it was deemed highly probable that as a result of EU membership, the UK parliament imposed higher environmental performance thresholds more rapidly than the UK parliament would have done intrinsically (Environmental Audit Committee, 2016).

tax payment, in order to be a good corporate citizen.

To capture the second hypothesis, earnings management measurements were included. The variables did only find a slight amount of evidence conform the studies of Kim et al. (2012) and Frank et al. (2009). Discretionary accruals were in most cases positively associated with tax avoidance and real activities manipulation in some cases negatively. Discretionary accruals were the best predictor for tax avoidance when using LCETR and the GAAP effective tax rate. Although the results were not reported in Hoi et al. (2013), the RAM was said to be also positively associated with tax avoidance. This was not found in this study. Moreover, the interactions showed unexpected results. Based on these results, the second hypothesis must be rejected. A combination of earnings shifting and scoring sufficiently on the economic performance indicator results in less tax avoidance. Perhaps, financial healthy companies with shareholder value will be likely to pay more taxes if they shift earnings. This could happen when the shifting of earnings is not meant for tax purposes but is used as a mean to create higher income for shareholders. When the depreciation or amortization costs are cut, this will improve the commercial profit but not change the taxable profit. The shifting of depreciation and amortization costs will improve commercial profit, which can lead to higher dividends and thus an enhancement of shareholder value. All in all, this would result in a higher tax rate compared to a situation without shifting of earnings.

Opposed to what was hypothesized, combined manipulation of the activities and a superior environmental performance can also curb tax avoidance. This may be due to RAM which was lower than in prior research (Kim et al. 2012). Presumably, less evident RAM was not able to detect the positive relationship between EM and tax avoidance. However, the interaction term between environmental performance and RAM gives away that a combination of CSR and manipulation of activities may lead to a higher (non-UK firms) or lower tax rate (UK firms). It could be that activities are manipulated for the sake of environmental performance or that environmental performance is a cover-up for tax. A combination of activity manipulation and CSR performance indicated more tax avoidance for the UK firms. The mean value of RAM was much lower for the non-UK sample, so there is some indication that less activity manipulation with CSR performance also leads to less tax avoidance but the RAM variable on itself was not significant for when the LCETR was measured in the other regressions. With the non-UK sample, the result of social performance becomes marginally significant, showing the interaction term is a better predictor for the LCETR. This result also gives rise to the thought that conforming tax avoidance, which also comprises income differences, can be used to examine supplemental tax avoidance measures. Unfortunately, the interactions did not persist during the sensitivity analysis.

The third hypothesis investigated states that CSR engagement firms in the first period Europe are more likely to be tax-avoidant compared to CSR engagement firms in the second period. When

looking at the full sample, only the second period shows significant results for the environmental and social scores. It seems as if these different indicators cancel each other out. When the sample is split, the UK firms display both in the first and the second period a positive effect of environmental performance on tax avoidance. Although the coefficients are still modest, this effect becomes larger, i.e. larger coefficient, for the second period. Additionally, the role of social performance is turning significant in the second period and has a negative effect on tax avoidance. Possibly, CSR practices have become more common over the years but its relation has not changed much over the years. Sensitivity analysis shows that environmental performance remains positively related to tax avoidance over the entire period. Externalities regarding the control variables were discussed in the results section and will not be discussed more extensively.

### 5.1.1 Implications for Research and Practice

The study showed that the relationship between CSR and tax avoidance in Europe is complex and needs to be studied in more depth. The results provide evidence that the relationship of CSR and tax avoidance varies between the European sample and that different CSR measures have different effects on the effective tax rate. UK firms showed a tendency to pay fewer taxes if the CSR performance in general, and environmental performance in specific, was higher. This was also found using the fixed effects model in section 4.4. A majority of the other models employed in section 4.3 showed that social performance for the UK firms was positively associated with the effective tax rates. This lends credence to the idea that UK firms do not consider environmental performance and tax avoidance complements. When CSR or tax avoidance is investigated this should be acknowledged. Additionally, CSR and tax avoidance both have an effect on the profit and therefore it is hard to make causation claims. However, it seems that promoting social behavior may suit the curbing of tax avoidance for UK firms. For non-UK firms, environmental performance is the better option to encourage limitation of the possible negative externalities of tax avoidance. Permanent influences of CSR could only be found for the UK sample but temporary differences were also shown for the non-UK sample. The use of a short-term or long-term effective tax rate may therefore also have led to different results in prior research. Additionally, sample composition may also contribute to different results (Davis et al., 2016). When the UK firms were not used in this analysis, rather a negative relationship between CSR and tax avoidance would have been reported.

Stakeholders should be aware of the different implications this study shows with respect to CSR. A high CSR score does not necessarily go hand in hand with less tax-avoidant behavior. Moreover, CSR scores of different indicators affect the effective tax rates not in systematic manner for each country. There is an urgent need for a dialogue between companies and their stakeholders

to align their expectations with regard to corporate tax payment (Hillenbrand, Money, Brooks, & Tovstiga, 2017). According to their study (Hillenbrand et al., 2017), corporations are still merely focused on the well-being of their shareholders. Policy makers may facilitate a role in mutual listening and understanding of the two groups. Hence, governments can use this study's implications for possible side effects when imposing future environmental taxation or environmental performance policies (EEA, 2016). Especially for EU directives which demand enhanced environmental performance, this may elicit reduced income taxes of the UK firms. It seems that for non-UK European firms environmental performance tends to decrease tax avoidance but this may vary from country-to-country. Corporate governance also showed in some cases a restriction to tax avoidance. Firms can benefit from members on the board who are not oblivious to communal concerns. Community representation in the board could enhance the legitimacy of firms (Luoma & Goodstein, 1999; Hillman & Dalziel, 2003) and reduce taxes.


## 5.2 Conclusion

With regard to the current social debate, this thesis set out to investigate the relationship between CSR performance and tax avoidance. Prior research exhibited mixing results and focused predominantly on the United States and Australia. The majority of prior research conducted (Hoi et al., 2013, Huseynov & Klam, 2012; Watson 2015), exhibited a (partially) negative relationship between CSR and tax avoidance, while Davis et al. (2016) found a positive one. Based on the predominant amount of research finding a negative relationship, the study hypothesized the relationship between CSR performance and tax avoidance accordingly. Different tax avoidance measurement approaches rooted in prior research were adopted to investigate the relationship with a sample consisting of exclusively European firms. Additionally, the quality of financial reporting, captured by the proxies discretionary accruals and real activities manipulation (Kim et al. 2012; Zang, 2012), was added as an explanatory variable and as a moderating variable. Subsequently, the investigation looked into different time periods. When conducting research, the European sample was separated between firms domiciled in the United Kingdom and firms domiciled in other European countries. This was done to connect the results more adequately to prior research and to tie up groups of business cultures and legal framework origins (Leuz et al., 2003). The study was executed using the pooled OLS model with fixed effects for years, industry and countries. Additionally, a sensitivity analysis was conducted with the fixed effects model to look for permanent trends and control for omitted variables and statistical endogeneity issues.

In contradiction to its hypothesis, the study found evidence suggesting that CSR is positively related to tax avoidance for European firms. This result is in line with the work of Davis et al. (2016)

and remains consistent for the UK firms throughout all the models and the sensitivity tests. For non-UK firms, there seems to be a negative relationship, but bluntly only for the first time period since this result does not hold in section 4.3.3 and in the fixed effects model. The tax avoidance measurement of the long-run cash effective tax rate proved to be the most capable predictor. Probably, the differences for the CETR for the European firms were too big and the GETR was not able to capture the deferral strategies (Hanlon & Heitzman, 2010). Moreover, the CSR performance was not only measured as a weighted-average of the environmental, social, and economic performance but the categories were also used separately as explanatory variables, as requested by Hanlon & Heitzman (2010) and Lanis & Richardson (2015). This showed that the relationship between CSR and tax avoidance is complex and that the performance scores have different effects for different country types. For UK firms environmental performance seemed to have a positive effect on tax avoidance while simultaneously social performance was negatively associated with tax avoidance. For non-UK firms the opposite situation seemed true. An interaction between environmental performance and real activities manipulation also gave conflicting results. For UK firms this lead to a lower tax rate while for non-UK firms this increased the rate. Presumably, the difference in activity manipulation and the effect of environmental performance on the ETR were the reasons for this result. The periodic differences did not indicate more or less tax-avoidance but showed that the connection in terms of coefficients between CSR and tax avoidance strengthened.

### 5.2.1 Limitations and future research directions

It must be acknowledged that the study also has a few limitations. First of all, the measurements for tax avoidance are based on the books of the firms, i.e. the calculations are made based on financial information provided by the firms. Whether the actual tax situation is accurately represented is not sure since the amount paid or expensed could not be traced from the tax forms.[19] The calculation of the tax base does also vary across countries and makes it harder to compare the effective tax rates. Secondly, the measurements of tax avoidance used only capture nonconforming tax avoidance (Hanlon & Heitzman, 2010). Recently, Badertscher et al. (2019) published a new method to capture conforming tax avoidance, which comprises both tax and income differences, which could be adopted to try to show whether prevalence of the method on European firms also exists. Thirdly, the method of measuring CSR was not in line with the prior KLD database method. The ASSET-4 database

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[19] Recently, Dutch Royal Shell admitted to paying no income taxes in the Netherlands, the country where the company is tax-resident according to their annual financial statements (NOS, 2019). However, their statements show tax expenses and taxes payable (Shell, 2018), but these are solely contributed to wages, VAT, excise duties and dividend tax. Later on, Philips and AkzoNobel also acknowledged making use of this 'liquidatieverliesregeling'.

provided percentages based on similar but not the same measurements, making it harder to compare with the prior KLD variables. Fourthly, a lot of observations had to be removed because of their negative income because their ETRs would be derailed (Zimmerman, 1983). This caused the exclusion of some of the countries from the sample. Lastly, it is important to keep in mind that this study adopted the broad definition of tax avoidance given by Dyreng et al. (2008). The methods used to deduct payments may be totally legal, illegal or reside in a grey area. Having a low effective tax rate does not necessarily imply that the company is fraudulently affecting its tax forms.

The findings and limitations leave room for future research to focus on several topics. Firstly, tax avoidance was only measured with nonconforming methods. The method of Badertscher et al. (2019) could be applied to capture supplementary strategies. Secondly, future research should look into the United Kingdom and the underlying business reasons for engaging in CSR and tax avoidance.. In the light of a possible Brexit, the UK would no longer be bound to EUs environmental and social regulations. The impact of this Brexit could be investigated. On top of that, Dyreng et al. (2016) found that public scrutiny can change the tax behaviour of firms in the UK. Thirdly, it should be tested if these results also hold when firms are experiencing or expecting low earnings, as applied by Watson (2015) or by other corporate decision drivers. A lot of firms with low earnings also experienced losses in one or more periods and were hence excluded from this research. Fourthly, although the results indicated a negative relationship for non-UK firms, additional analysis is useful to see whether this holds for smaller firms and for countries individually. A directive of the EU which demands member states to implement a common consolidated corporate tax base[20] will more easily achieve the comparison of firms, since only the tariffs will then differ from country-to-country. Fifthly, the board of directors' characteristics and corporate governance mechanisms could be examined, as an extension of the findings by Armstrong et al. (2015). Presumably, stakeholder-oriented directors may also curb tax avoidance. Finally, the sample covered a longer period than prior research did. However, it could be that tax avoidance behaviour evolves further over the years. It could be that firms decide to adopt other methods to avoid taxes or that CSRs role in tax planning decision making alters. Figures 3 and 4 of appendix E indicate that while means of the CETR and GETR keep on falling, the CSR performance is increasing. This will also have effects for LCETR in a few years. All in all, it is a good thing that the research area of tax avoidance has gained increasing prominence within discussions concerning CSR (Whait et al., 2018), but although this study gave away a glimpse there is much room for further research.

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[20] Proposal has been made on the 25th October 2016. It is currently in its consultation period and member states should comply by the 31th December 2020 the latest with this directive (European Commission, 2016).

# *Bibliography*

Adams, R., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics., 94*(2), 291-309.

Armstrong, C., Blouin, J., Jagolinzer, A., & Larcker, D. (2015). Corporate Governance, Incentives, and Tax Avoidance. *Journal of Accounting and Economics, 60*(1), 1-17.

Badertscher, B., Katz, S., Rego, S., & Wilson, R. (2019). Conforming Tax Avoidance and Capital Market Pressure. *The Accounting Review, Forthcoming*, 67.

Badertscher, B., Phillips, J., Pincus, M., & Rego, S. (2009). Earnings Management Strategies and the Trade-Off between Tax Benefits and Detection Risk: To Conform or Not to Conform? *The Accounting Review, 84*(1), 63-97.

Ball, R., Kothari, S., & Robin, A. (2000). The effect of international institutional factors on properties of accounting earnings. *Journal of Accounting and Economics, 29*(1), 1-51.

Braam, G., Nandy, M., Weitzel, U., & Lodh, S. (2015). Accrual-based and real earnings management and political connections. *The International Journal of Accounting, 50*, 111-141.

Carroll, A. B. (1979). A Three-Dimensional Conceptual Model of Corporate Performance. *The Academy of Management Review, 4*(4), 497-505.

Carroll, A. B. (1991). The pyramid of corporate social responsibility: Toward the moral management of organizational stakeholders. *Business Horizons, 34*(4), 39-48.

Chen, S., Chen, X., Cheng, Q., & Shevlin, T. (2010). Are Family Firms more Tax Aggressive than Nonfamily Firms? *Journal of Financial Economics, 95*(1), 41-61.

Christensen, J., & Murphy, R. (2004). The social irresponsibility of corporate tax avoidance: Taking CSR to the bottom line. *Development, 47*(3), 37-44.

Clarkson, P., Li, Y., Richardson, G., & Vasvari, F. (2008). Revisiting the relation between environmental performance and environmental disclosure: An empirical analysis. *Accounting, Organizations and Society, 33*(4-5), 303-327.

Cohen, D., Dey, A., & Lys, T. (2008). Real and accrual-based earnings management in the pre- and post Sarbanes-Oxley periods. *The Accounting Review, 83*(3), 757-787.

Crocker, K., & Slemrod, J. (2005). Corporate tax evasion with agency costs. *Journal of Public Economics, 89*, 1593-1610.

Davis, A. K., Guenther, D. A., Krull, L. K., & Williams, B. M. (2016). Do Socially Responsible Firms Pay More Taxes. *The Accounting Review, 91*(1), 47-68.

Dechow, P., & Dichev, I. (2002). The quality of accruals and earnings: The role of accrual estimation error. *The Accouting Review, 77*(4), 35-59.

Desai, M. A., & Dharmapala, D. (2006). Corporate Tax Avoidance and High Powered Incentives. *Journal of Financial Economics, 79*(1), 145-179.

Desai, M. A., & Dharmapala, D. (2009). Corporate Tax Avoidance and Firm Value. *The Review of Economics and Statistics, 91*(3), 537-546.

Desai, M., Dyck, A., & Zingales, L. (2007). Theft and taxes. *Journal of Financial Economics, 84*(3), 591-623.

DeZoort, F., Pollard, T., & Schnee, E. (2018). A study of Perceived Ethically of Low Corporate Effective Tax Rates. *Accounting Horizons, 32*(1), 87-104.

Dhaliwal, D. S., Radhakrishnan, S., Tsang, A., & Yang, Y. G. (2012). Nonfinancial disclosure and analyst forecast accuracy: International evidence on corporate social responsibility disclosure. *The Accounting Review, 87*(3), 723-761.

Dhaliwal, D., Li, O., Tsang, A., & Yang, Y. (2011). Voluntary nonfinancial disclosure and the cost of equity capital: The initiation of corporate social responsibility reporting. *The Accounting Review, 86*(1), 59-100.

Dharmapala, D., & Hines, J. R. (2009). Which Countries Become Tax Havens. *Journal of Public Economics, 93*(1), 1058-1068.

Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2008). Long-Run Corporate Tax Avoidance. *The Accounting Review, 83*(1), 61-82.

Dyreng, S. D., Hanlon, M., & Maydew, E. L. (2010). The Effects of executives on Corporate Tax Avoidance. *The Accounting Review, 85*(4), 1163-1189.

Dyreng, S. D., Hoopes, J. L., & Wilde, J. H. (2016). Public Pressure and Corporate Tax Behavior. *Journal of Accounting Reserach, 54*(1), 147-186.

Elkington, J. (1998). Partnerships from Cannibals with Forks: The Triple Bottom Line of 21st-Century Business. *Environmental Quality Management, 98*(8), 37-51.

Elliffe, C. (2011). The Thickness of a Prison Wall - Whenkolsta Does Tax Avoidance Become a Criminal Offence. *New Zealand Business Law Quaterly, 17*(4), 441-466.

Environmental Audit Committee. (2016). *EU and UK Environmental Policy.* London: House of Commons. Retrieved from https://publications.parliament.uk/pa/cm201516/cmselect/cmenvaud/537/537.pdf

European Commission. (2016, 10 25). *Proposal for a council directive on a Common Consolidated Corporate Tax Base (CCCTB).* Retrieved from EUR Lex Europa: https://eur-lex.europa.eu/resource.html?uri=cellar:ff337b5c-9b7d-11e6-868c-01aa75ed71a1.0002.02/DOC_1&format=PDF

European Environmental Agency. (2016). *Environmental taxation and EU environmental policies.* Copenhagen: EEA.

Evan, W., & Freeman, R. (1993). A stakeholder theory of the modern corporation: kantianian capitalism. In T. Beauchamp, & N. Bowie, *Ethical theory and business* (5th ed.). Englewood Cliffs: Prentice Hall.

Ewing, J. (2018, September 20). *The Netherlands, a Tax Avoidance Center, Tries to Mend Its Ways.* Retrieved from The New York Times: https://www.nytimes.com/2018/09/20/business/netherlands-tax-avoidance.html

Fisher, J. (2014). Fairer shores: Tax havens, tax avoidance, and corporate social responsibility. *Boston University Law Review, 94*, 337-365.

Frank, M., Lynch, L., & Rego, S. (2009). Tax Reporting Aggressiveness and Its Relation to Aggressive Financial Reporting. *The Accounting Review, 84*(2), 467-496.

Freeman, R. E. (1984). *Strategic Management: A stakeholder approach.* Boston: Pitman.

Friedman, M. (1970, September 13). The Social Responsibility of Business is to Increase its Profits. *The New York Times Magazine*, pp. 122-126.

Godfrey, P., Merrill, C., & Hansen, J. (2009). The relationship between corporate social responsibility and shareholder value: An empirical test of the risk management hypothesis. *Strategic Management Journal, 30*(4), 425-446.

Graham, J., Hanlon, M., Shevlin, T., & Shroff, N. (2014). Incentives for Tax Planning and Avoidance: Evidence from the Field. *The Accounting Review, 89*(3), 991-1023.

Gravelle, J. G. (2010). *Tax Havens: International Tax Avoidance and Evasion.* Congressional Research Service.

Hanlon, M., & Heitzman, S. (2010). A review of tax research. *Journal of Accounting and Economics, 50*(2-3), 127-178.

Harris, C. (2008). Ranking the Management Journals. *Journal of Scholarly Publishing, 39*(4), 373-409.

Hasseldine, J., & Morris, G. (2013). Corporate social responsibility and tax avoidance: A comment and reflection. *Accounting Forum, 37*(1), 1-14.

Hillenbrand, C., Money, K., Brooks, C., & Tovstiga, N. (2017). Corporate Tax: What Do Stakeholders Expect? *Journal of Business Ethics*, 1-24.

Hillman, A., & Dalziel, T. (2003). Boards of Directors and Firm Performance: Integrating Agency and Resource Dependence Perspectives. *Academy of Management Review, 28*(3), 28.

Hoi, C.-K., Wu, Q., & Zhang, H. (2013). Is Corporate Social Responsibility (CSR) Associated with Tax Avoidance? Evidence from Irresponsible CSR Activities. *The Accounting Review, 88*(6), 2025-2060.

Huseynov, F., & Klamm, B. K. (2012). Tax Avoidance, Tax Management and Corporate Social Responsibility. *Journal of Corporate Finance, 18*(4), 804-827.

Huseynov, F., Sardarli, S., & Zhang, W. (2017). Does index addition affect corporate tax avoidance? *Journal of Corporate Finance, 43*, 241-459.

Jones, J. (1991). Earnings management during import relief investigations. *Journal of Accouting Research, 29*(2), 193-228.

Kiesewetter, D., & Manthey, J. (2017). Tax avoidance, value creation and CSR - a European perspective. *Corporate Governance: The International Journal of Business in Society, 17*(5), 803-821.

Kim, Y., Park, M., & Wier, B. (2012). Is Earnings Quality Associated with Corporate Social Responsibility? *The Accounting Review, 87*(3), 761-796.

Kirchler, E., & Hoelzl, E. (2017). *Economic Psychology.* (R. Ranyard, Ed.) John Wiley & Sons.

Kirchler, E., Maciejovsky, B., & Schneider, F. (2003). Everyday representations of tax avoidance, tax evasion, and tax flight: Do legal differences matter? *Journal of Economic Psychology, 24*(4), 535-553.

Kolstad, I. (2007). Why Firms Should Not Always Maximize Profits. *Journal of Business Ethics, 76*, 137-145.

Kothari, S., Leone, A., & Wasley, C. (2005). Performance matched discretionary accrual measures. *Journal of Accouting and Economics, 39*(1), 163-197.

La Porta, R., Lopez-de Silanes, F., Shleifer, A., & Vishny, R. (1998). Law and Finance. *The Journal of Political Economy, 106*(6), 1113-1155.

La Porta, R., Lopez-de-Silanes, F., Shleifer, A., & Vishny, R. (2000). Investor protection and corporate governance. *Journal of Financial Economics, 58*, 3-27.

Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: An empirical analysis. *Journal of Accounting and Public Policy, 31*, 86-108.

Lanis, R., & Richardson, G. (2015). Is Corporate Social Responsibility Performance Associated with Tax Avoidance? *Journal of Business Ethics, 127*, 439-457.

Larson, C., Sloan, R., & Giedt, J. (2018). Defining, measuring, and modeling accruals: a guide for researchers. *Review of Accounting Studies, 23*(3), 827-871.

Laufer, W. (2003). Social Accountability and Corporate Greenwashing. *Journal of Business Ethics, 43*(3), 253-261.

Leuz, C., Nanda, D., & Wysocki, P. (2003). Earnings management and investor protection: an international comparison. *Journal of Financial Economics, 69*(3), 505-527.

Lev, B., Petrovits, C., & Radharkrishnan, S. (2010). Is doing good good for you? Yes, charitable contributions enhance revenue growth. *Strategic Management Journal, 31*(2), 182-200.

Lowe, A., & Locke, J. (2006). Constructing an 'efficient frontier' of accounting journal quality. *The British Accounting Review, 38*, 321-341.

Luoma, P., & Goodstein, J. (1999). Stakeholders and Corporate Boards: Institutional Influences on Board Composition and Structure. *Academy of Management Journal, 42*(5), 553-563.

Mackey, A., Mackey, T. B., & Barney, J. B. (2007). Corporate Social Responsibility and Firm Performance: Investor Preferences and Corporate Strategies. *The Academy of Management Review, 32*(3), 817-835.

Margolis, J., & Walsh, J. (2003). Misery Loves Companies: Rethinking Social Initiatives by Business. *Administrative Science Quaterly, 48*(2), 268-305.

McWilliams, A., & Siegel, D. (2001). Corporate Social Responsibility: A theory of the firm perspective. *Academy of Management Review, 27*(1), 117-127.

Moser, D. V., & Martin, P. R. (2012). A Broader Perspective on Corporate Social Responsibility Research in Accounting. *The Accounting Review, 87*(3), 707-806.

NOS. (2019, 5 21). *Shell betaalt geen winstbelasting in Nederland.* Retrieved from nos.nl: https://nos.nl/artikel/2285715-shell-betaalt-geen-winstbelasting-in-nederland.html

Petersen, M. (2009). Estimating Standard Errors in Finance Panel Data Sets: Comparing Approaches. *The review of financial studies, 22*(1), 435-480.

Prior, D., Surroca, J., & Tribo, J. (2008). Are Socially Responsible Managers Really Ethical? Exploring the Relationship Between Earnings Management and Corporate Social Responsibility. *Corporate Governance, 16*(3), 160-177.

Rego, S. (2003). Tax-Avoidance Activities of U.S. Multinational Corporations. *Contemporary Accounting Research, 20*(4), 805-833.

Rego, S., & Wilson, R. (2012). Equity Risk Incentives and Corporate Tax Aggressiveness. *Journal of Accounting Research, 50*(3), 775-810.

Roychowdhury, S. (2006). Earnings management through real activities manipulation. *Journal of Accounting and Economics, 42*(3), 335-370.

Shell, R. D. (2018). *Annual Report 2018.* The Hague: Royal Dutch Shell.

Sikka, P. (2010). Smoke and mirrors: Corporate social responsibility and tax avoidance. *Accounting Forum, 34*(3), 153-168.

Taylor, G., Richardson, G., & Taplin, R. (2014). Determinants of tax haven utilization: evidence from Australian firms. *Accounting and Finance, 55*(2), 545-574.

Torgler, B. (2007). *Tax Compliance and Tax Morale: A Theoretical and Empirical Analysis.* Cheltenham, UK: Edward Elgar.

Trading Economics. (2019, June). *tradingeconomics.com*. Retrieved from European Union Corporate Tax Rate: https://tradingeconomics.com/european-union/corporate-tax-rate

Visser, W., & Tolhurst, N. (Eds.). (2010). *The World Guide to CSR: A Country-by-Country Analysis of Corporate Sustainability and Responsibility.* London: Routledge. doi:https://doi.org/10.4324/9781351278928

Watson, L. (2015). Corporate Social Responsibility, Tax Avoidance, and Earnings Performance. *The Journal of American Taxation Association, 37*(2), 1-21.

Whait, R., Christ, K., Ortas, E., & Burritt, R. (2018). What do we know about tax aggressiveness and corporate social responsibility? An integrative review. *Journal of Cleaner Production, 204*, 542-552.

Wilde, J. H., & Wilson, R. J. (2018). Perspectives on Corporate Tax Planning: Observations from the Past Decade. *Journal of The American Taxation Association, 40*(2), 63-81.

Wilson, R. J. (2009). An Examination of Corporate Tax Shelter Participants. *The Accounting Review, 84*(3), 969-999.

Wood, D. (1991). Corporate Social Performance Revisited. *Academy of Management Review, 16*(4), 691-718.

Wooldridge, J. (2012). *Introductory Econometrics: A Modern Approach* (5 ed.). South-Western: Cengage Learning.

Zang, A. (2012). Evidence on the Trade-Off between Real Activities Manipulation and Accrual-Based Earnings Management. *The Accounting Review, 87*(2), 675-703.

Zimmerman, J. (1983). Taxes and firm size. *Journal of Accounting and Economics, 5*(2), 119-149.

## *Appendices*

### *Appendix A The ASSET4 database Index*

| Pillar | Category | Score |
|---|---|---|
| Economic | Margins/Performance | Positive Percentage |
| | Profitability/Shareholder Loyalty | Positive Percentage |
| | Revenue/Client Loyalty | Positive Percentage |
| Environmental | Emission Reduction | Positive Percentage |
| | Product Innovation | Positive Percentage |
| | Resource Reduction | Positive Percentage |
| Social | Customer/Product Responsibility | Positive Percentage |
| | Society/Community | Positive Percentage |
| | Society/Human Rights | Positive Percentage |
| | Workforce/Diversity and Opportunity | Positive Percentage |
| | Workforce/Employment Quality | Positive Percentage |
| | Workforce/Health & Safety | Positive Percentage |
| | Workforce /Training and Development | Positive Percentage |

*Table 13 CSR Engagement Score*

| Pillar | Category | Score |
|---|---|---|
| Corporate Governance | Board of Directors/Board Functions | Positive Percentage |
| | Board of Directors/Board Structure | Positive Percentage |
| | Board of Directors/Compensation Policy | Positive Percentage |
| | Integration/Vision and Strategy | Positive Percentage |
| | Shareholders /Shareholder Rights | Positive Percentage |

*Table 14 Corporate Governance Control Variable*

$$\frac{TAA_{it}}{A_{it-1}} = a_0 + a_1\left(\frac{1}{A_{it-1}}\right) + a_2\left(\frac{\Delta(REV_{it} - REC_{it})}{A_{it-1}}\right) + a_3\left(\frac{PPE_{it}}{A_{it-1}}\right) + a_4\left(\frac{ROA_{it}}{A_{it-1}}\right) + \varepsilon_{it} \qquad \text{(A-1)}$$

| Variable | Explanation |
|---|---|
| $TAA_{it}$ / $A_{it\text{-}1}$<br><br>Computed as<br><br>$TAA_{it} = (\Delta CA_{it} - \Delta CL_{it} - \Delta Cash_{it} + \Delta STD_{it} - Dep_{it})/(A_{t\text{-}1})$[21]<br><br>Where, | Total Accrual Adjustments |
| $\Delta CA_{it}$ | Current assets in year t, less current assets in year t-1 |
| $\Delta CL_{it}$ | Current liabilities in year t, less current assets in year t-1 |
| $\Delta Cash_{it}$ | Cash and cash equivalents in year t, less cash and cash equivalents in year t-1. |
| $\Delta STD_{it}$ | Short term debt in year t, less short term debt in year t-1 |
| $Dept_{it}$ | Depreciation and amortization expense during year t |
| $A_{it\text{-}1}=$ | Total assets of firm i, in period t-1. Used as a deflator for possible heteroscedasticity. |
| $\Delta(REV_{it})$ | The change in sales for firm i, in period t |
| $\Delta(REC_{it})$ | The change in accounts receivable of firm i, in period t |

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[21] Based on the paper by Larson, Sloan, & Giedt (2018) total accruals are measured using the balance sheet approach. According to the authors (Larson et al., 2018), the cash flow method (TA=Net Profit-Net Cash from Operating Activities) which is also commonly used, is flawed because it does not incorporate the orgination of many noncurrent operating accruals and it excludes working capital.

| (Continued) | |
|---|---|
| PPE$_{it}$ | Plant, Property and Equipment of firm i, in period t |
| ROA$_{it}$ | Return on assets of firm i, in period t |
| ε$_t$ | The discretionary accrual adjustments (DAA), the unexpected component of accruals |

*Table 15 Explanation of Accrual-Based EM*

## *Appendix C Measuring Real Activities Manipulation Earnings Management*

Following prior studies (e.g. Cohen et al.,2008; Roychowdhury, 2006), real activities manipulation (RAM) is defined as management actions that deviate from normal business practices undertaken for purposes of meeting or beating certain earnings thresholds (Kim et al. 2012). Conform the studies by Cohen et al. (2008) and Kim et al. (2012), the measures are combined to detect RAM:

$$RAM_{PROXY} = COMBINED_{RAM} = AB_{CFO} + AB_{PROD}, +AB_{EXP}$$

| Variable | Explanation |
|---|---|
| $RAM_{PROXY}$ | Proxy for Real Activities Manipulation |
| Where, | |
| $AB_{CFO}$ | The level of abnormal cash flows from operations. The reversed scores are reported. |
| $AB_{PROD}$ | The level of abnormal production costs, where production costs are defined as the sum of cost of goods sold and the change in inventories |

| | |
|---|---|
| (Continued) | |
| $AB_{EXP}$ | The level of abnormal discretionary expenses, where discretionary expenses are the sum of R&D expenses, advertising expenses, and SG&A expenses. The reverse scores are reported. |
| $COMBINED\_RAM$ | $AB_{CFO} + AB_{PROD} + AB_{EXP}$ |

*Table 16 Explanation of RAM EM*

Subsequently, the different formulas for the calculation of the measures are given. For completeness, the explanation of the variables used in the formulas can be found in table 16. Firstly, the level abnormal cash flows ($AB_{CFO}$) is estimated for every firm-year by the residual from the corresponding industry by using the residual of formula (A-2) in accordance with Roychowdhury (2006):

$$\frac{CFO_t}{A_{t-1}} = a_0 + a_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{Sales_t}{A_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_t}{A_{t-1}}\right) + \varepsilon_t \qquad \text{(A-2)}$$

Secondly, the level of abnormal production costs ($AB_{PROD}$) is estimated for every firm-year by using the residual of formula (A-3) in accordance with Roychowdhury (2006):

$$\frac{PROD_t}{A_{t-1}} = a_0 + a_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{Sales_t}{A_{t-1}}\right) + \beta_2\left(\frac{\Delta Sales_t}{A_{t-1}}\right) + \beta_3\left(\frac{\Delta Sales_{t-1}}{A_{t-1}}\right) + \varepsilon_t \qquad \text{(A-3)}$$

Following Roychowdhury (2006), Cohen et al. (2008), and Zang (2012), $PROD_t$ is the result of the separate regressions of cost of goods sold (COGS) plus the change in inventory (ΔINV): $PROD_t = COGS_t + \Delta INV_t$. The regressions for $COGS_t$ and ΔINV are indicated by formulas (A-4) and (A-5).

$$\frac{COGS_t}{A_{t-1}} = a_0 + a_1\left(\frac{1}{A_{t-1}}\right) + \beta_1\left(\frac{Sales_t}{A_{t-1}}\right) + \varepsilon_t \qquad \text{(A-4)}$$

$$\frac{\Delta INV_t}{A_{t-1}} = a_0 + a_1 \left(\frac{1}{A_{t-1}}\right) + \beta_1 \left(\frac{\Delta Sales_t}{A_{t-1}}\right) + \beta_2 \left(\frac{\Delta Sales_{t-1}}{A_{t-1}}\right) + \varepsilon_t \qquad \text{(A-5)}$$

Thirdly, the level of abnormal discretionary expenses ($AB_{EXP}$) is estimated for every firm-year by using the residual of the following formula (A-6) of Roychowdhury (2006):

$$\frac{DISEXP_t}{A_{t-1}} = a_0 + a_1 \left(\frac{1}{A_{t-1}}\right) + \beta_1 \left(\frac{Sales_t}{A_{t-1}}\right) + \varepsilon_t \qquad \text{(A-6)}$$

Finally, a combined REM proxy is formed by taking the sum of the aforementioned measurements (A-2; A-3; A-6):

$$COMBINED\_RAM = AB_{CFO} + AB_{PROD} + AB_{EXP} \qquad \text{(A-7)}$$

| Variable | Explanation |
| --- | --- |
| $CFO_t$ | Cash Flow from Operations in year t. |
| $A_{t-1}$ | Lagged total assets |
| $Sales_t$ | Net Sales in year t |
| $\Delta Sales_t$ | Change in net sales in year t from t-1 |
| $PROD_t$ | Normal production costs as the sum of cost of goods sold and the change in inventory in year t. |
| $COGS_t$ | The cost of goods sold in year t |
| $\Delta INV_t$ | The change in inventory in year t |
| $DISEXP_t$ | The discretionary expenses, defined as the sum of research and development, advertising and selling, general and administrative expenses. |

Table 17 Explanation of the RAM variables

| Dependent Variables | Explanation |
|---|---|
| $GETR_{it}$ | GAAP effective tax rate for firm i, year t. Computed as: $$\frac{Tax\ expense_{it}}{Pretax\ income_{it}}$$ |
| $CETR_{it}$ | Cash effective tax rate for firm i, year t. Computed as: $$\frac{Cash\ Tax\ Paid_{i,t}}{Pretax\ income_{i,t}}$$ |
| $LCETR_{it}$ | Long-run cash effective tax rate for firm i, year t. Computed as: $$\frac{Cash\ Tax\ Paid_{i,t-4} + \cdots + Cash\ Tax\ Paid_{i,t}}{Pretax\ income_{i,t-4} + \cdots + Pretax\ income_{i,t}}$$ |

| Independent Variables | Explanation |
|---|---|
| $CSR_{it}$ | Average weighted score of the ASSET4 database based on the environmental, social and economic pillar scores for firm i, year t |
| $ENV_{it}$ | Environmental pillar score of the ASSET4 database for firm i, year t |
| $SOC_{it}$ | Social pillar score of the ASSET4 database for firm i, year t |
| $EC_{it}$ | Economic pillar score of the ASSET4 database for firm i, year t |

(To be continued)

| | |
|---|---|
| $ABS\_DA_{it}$ | Absolute value of discretionary accruals (signed discretionary accruals), where discretionary accruals are computed using the modified Jones model including lagged ROA as a regressor, proposed by Kothari (2005) for firm i, year t. See Appendix B. |
| $C(OMBINED)\_RAM_{it}$ | Sum of real activities manipulation proxies for firm i, year t. See Appendix C. |
| **Control Variables** | **Explanation** |
| $CG_{it}$ | Corporate governance pillar score of the ASSET4 database for firm i, year t |
| $SIZE_{it}$ | Natural logarithm of total assets for firm i, year t |
| $LEV_{it}$ | Leverage for firm i, year t, measured as long-term debt plus short-term debt scaled by lagged total assets |
| $MTB_{it}$ | Market-to-Book ratio of firm i, year t computed as the price per share times total common shares outstanding over the book value of equity |
| $INTAN_{it}$ | Intangible assets of firm i, year t, scaled by lagged total Assets |
| $PPE_{it}$ | Property, plant and equipment for firm i, year t, scaled by lagged total assets. |
| $ROA_{it}$ | Return on assets measured as pre-tax income for firm i, year t, scaled by lagged total assets |
| $CASH_{it}$ | Cash and cash equivalents of firm i, year t, scaled by lagged total assets |
| $EMP_{it}$ | The natural logarithm of the number of employees for firm i, year t |

*Table 18 Overview of the variable definitions*

## Appendix E Graphs

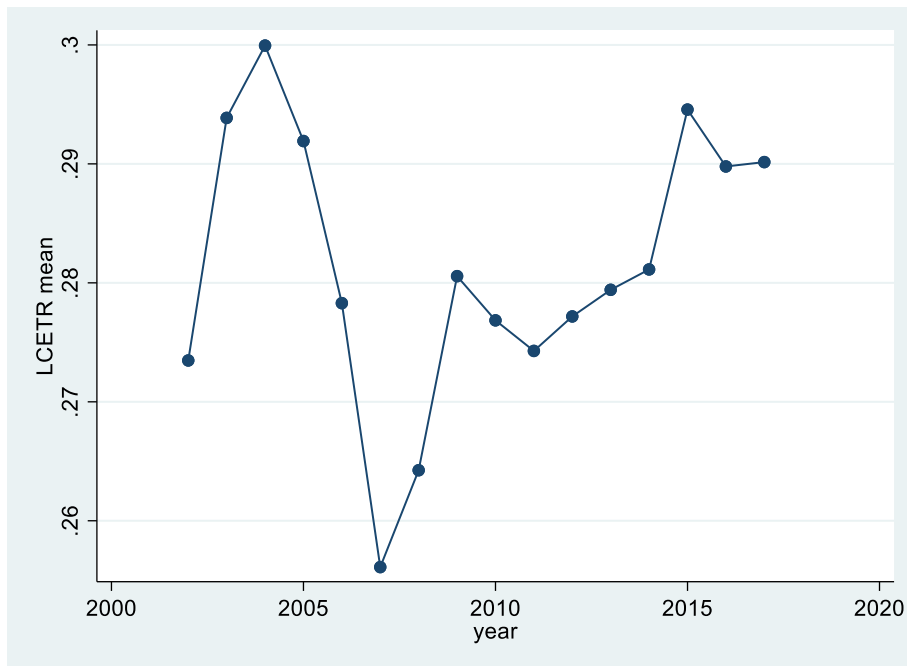This appendix provides plotted graphs of the mean of the dependent and independent variables.
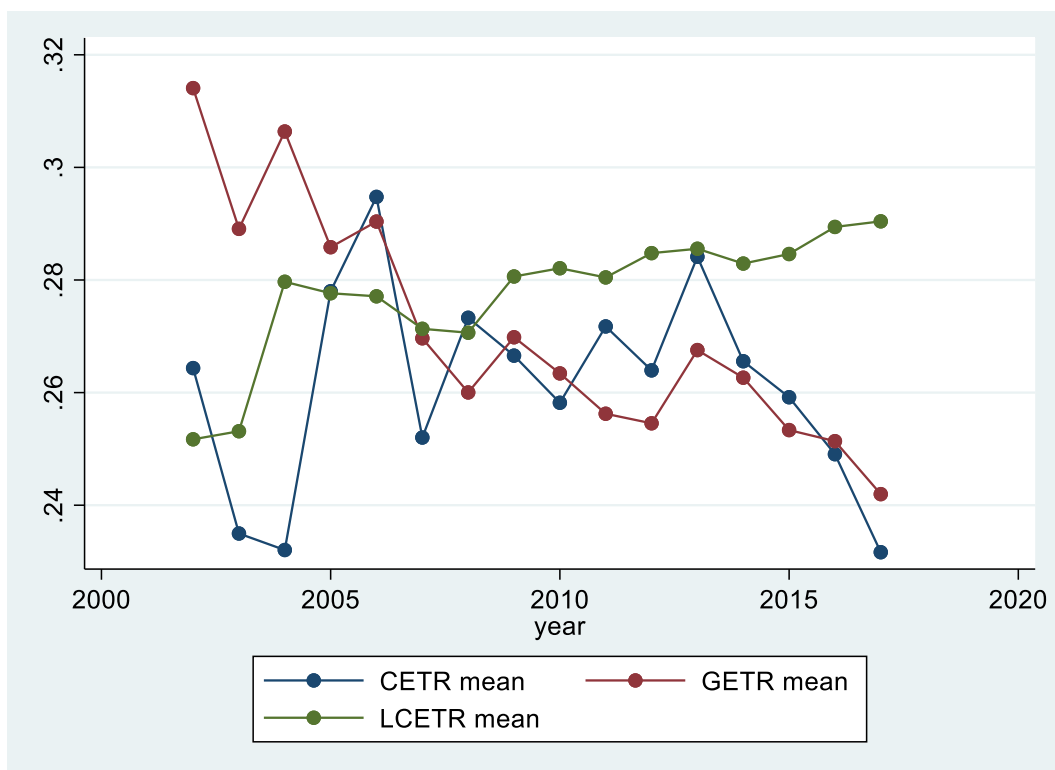


*Figure 2 LCETR mean over the years*



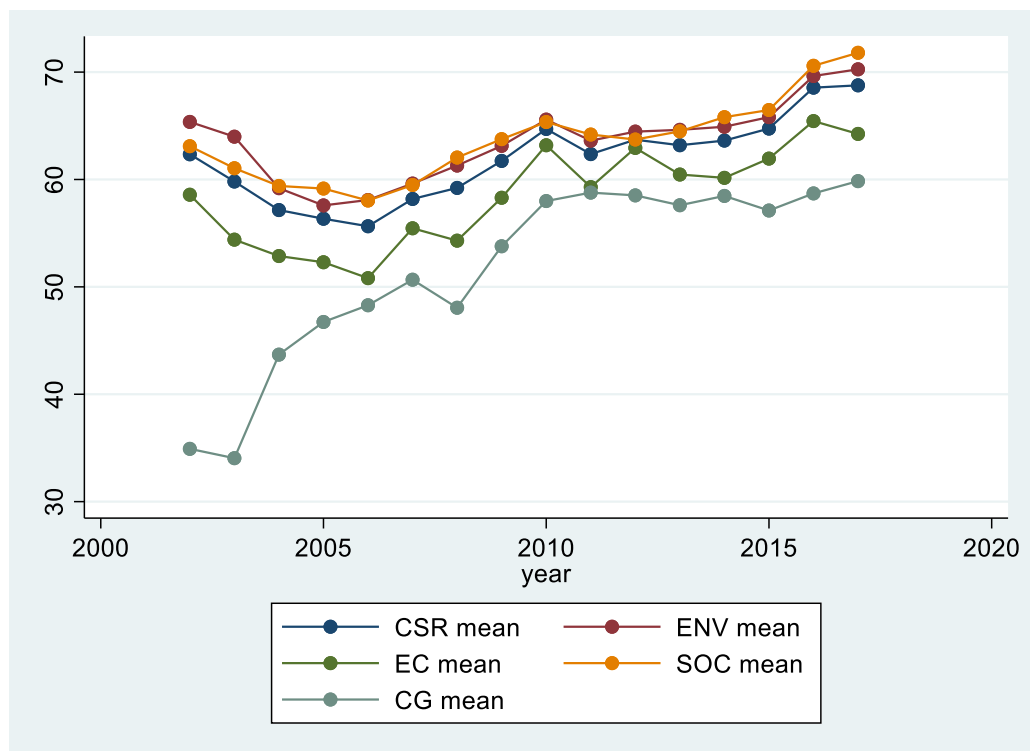*Figure 3 CETR, GETR, and LCETR mean over the years*

Figure 4 CSR (components) over the years

## Appendix F Baseline regression of CSR

|  | (1) LCETR UK | (2) LCETR NO UK |
|---|---|---|
| CSR | -0.0004** | 0.0004*** |
|  | (-2.31) | (3.07) |
| CG | 0.0004** | -0.0001 |
|  | (2.13) | (-0.68) |
| Constant | 0.3255*** | 0.1967*** |
|  | (11.98) | (6.87) |
| Year effects | Yes | Yes |
| Industry effects | Yes | Yes |
| Country effects | No | Yes |
| Observations | 1258 | 2245 |
| $R^2$ | 0.084 | 0.138 |
| Adjusted $R^2$ | 0.067 | 0.124 |

*Table 19 OLS regression with robust standard errors. The levels of statistically significance are denoted by asterisks. Where *** denotes statistical significance at the <0.01 level, ** denotes statistical significance at the <0.05 level, and * denotes statistical significance at the *<0.1 level. An overview of all the variable definitions can be found in appendix D. Model (1) is run with only firms domiciled in the United Kingdom which according to Leuz et al. (2003) belongs to the same corporate culture as the United States. Model (2) is executed with firms domiciled in the other European countries in the sample which have more similarities.*